

National Safety News

APRIL 1951





**YOU THINK YOUR
STENOGRAPHER HAS
EVERYTHING IN HER HANDBAG?**

*the girls at a large chemical company
GO HER ONE BETTER!*

Although the possibility of escaping toxic gas from tank or piping failure in one of the country's large chemical plants was remote, the alert Safety Department set up a complete program to prepare personnel for all eventualities.

As part of the program, every employee—including the entire office force—was equipped with an M.S.A. Gasfoc Respirator. Not only was protection against temporary breathing hazard assured—every employee, aware of the well-organized and comprehensive safety program, and that his own individual welfare had been safeguarded, was given a feeling of confidence that is the best defense in any emergency.

The Gasfoc is designed to offer protection against temporary exposure to light concentrations of certain toxic gases, and so was completely adapted to this particular need. Your problem may call for a different

degree of protection—self contained breathing apparatus—hose masks—gas masks—or air line, mechanical filter or chemical cartridge respirators. The M.S.A. Line includes a wide variety of all this equipment, developed in the M.S.A. Research Laboratory, and completely service-tested.

Perhaps a review of your operations would reveal new processes or methods that have brought new respiratory problems. Your M.S.A. Man will be glad to cooperate with you in a study to spot such potential hazards . . . and to recommend devices to combat them.

**CALL THE M.S.A. MAN ON YOUR EVERY SAFETY
PROBLEM . . . HIS JOB IS TO HELP YOU.**



MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS and MEADE STREETS • PITTSBURGH 8, PA.

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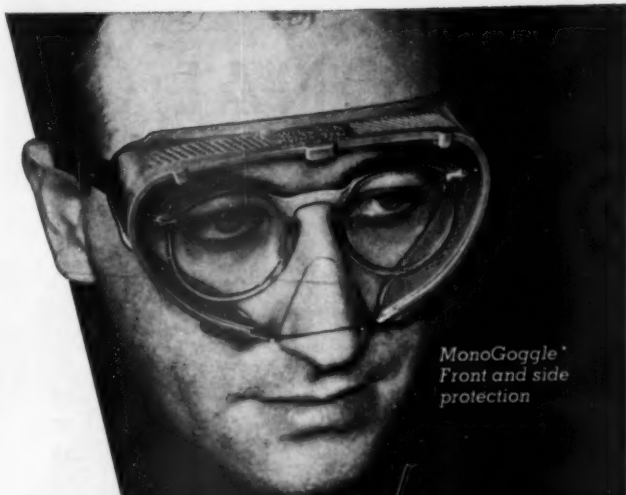
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SAFETY EQUIPMENT HEADQUARTERS
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For prompt safety service
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*T.M. Reg. U.S. Pat. Off.

NATIONAL SAFETY NEWS

VOLUME 63

NUMBER 5

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THE COVER: Engineer S. V. Borthwick is bringing Train No. 8 of the Nickel Plate Road into the Cleveland Terminal. Photographer John D. Burger shot over his shoulder to make this unusual picture of the city's skyline. (Courtesy Nickel Plate Road Magazine).

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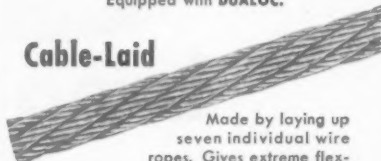
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Heat-Fag and Fume-Fag OUT!



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Here, in the cool, fresh air circulated onto the job by a Coppus "Blue Ribbon" Blower or Exhauster, you'll find just what you were looking for —

A sure way to get the most from every man-hour . . . near furnaces . . . in tanks . . . underground cable manholes . . . in confined spaces . . . around hot processes.

Easily adaptable to a wide variety of purposes, every Coppus Blower and Exhauster is portable, and on each of them the "Blue Ribbon" is the sign of Coppus precision workmanship and trouble-free, long-lasting strength.



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**THE BLOWERS THAT PUT MORE MINUTES
IN EVERY MAN-HOUR**

**CABLE MANHOLE AND TANK VENTILATORS — BOILER MANHOLE BLOWERS AND EXHAUSTERS — HEAT KILLERS —
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- ☐ drying of walls, sheets; etc., after treated with coating material.

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COMPANY

ADDRESS

CITY

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all year 'round with - -

SUPER SAFE CETOX

Hydraoxated carnauba floor wax
- - It's all-weather-slip-proof!

Come rain or shine, radically new SUPER SAFE CETOX gives genuine security underfoot on dazzling, beautiful floors.

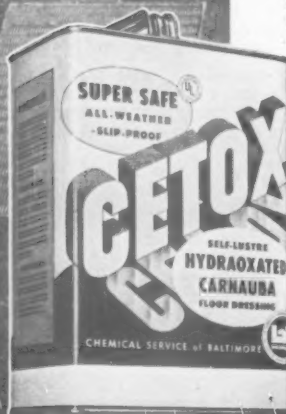
Super safe—even in inclement weather

Here's important protection all year long—especially throughout year's 30% inclement weather when the risk of slips and falls is greatest. Snow, sleet and rain tracked onto a waxed floor acts as a lubricant underfoot. SUPER SAFE CETOX ends this hazard. Foot traffic has solid, secure footing on a CETOX dressed floor . . . whether wetted or

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Chemical Service of Baltimore

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Skilled Eyes STAY Skillful...



When **eye**
SAVERS stand guard!

A shatter-proof methacrylate lens and light, good looking construction... these qualities have made Watchmocket's NO. 7 EYE-SAVER the standard of industry for heavy duty applications.

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IN CANADA • LEVITT-SAFETY LIMITED, TORONTO 10, MONTREAL 1

National Safety News, April, 1951

Go Modern-Go Magic!

More Safety for Less Money— and as easy as lifting your finger

Modern safety standards have long since left the horse-and-buggy stage. But it has taken lens cleansing methods a woefully long time to catch up with the parade.

In fact, only with the development of interfolded jumbo-size, MAGIC LENS TISSUE in a self-serving Dispenser has the need been filled in an up-to-date way. No bother. No waste. No fluid. No complicated or cumbersome dispenser.

You know the problem. If you ask your working folks in plants or laboratories to "clean" goggles or glasses with a rag, or ordinary fibre paper, lint and smears stick to most lenses. If you give them a small treated sheet, it tears and one sheet doesn't do the job. If you ask them to fuss with a cleaning fluid, time is wasted by this old fashioned method. Make it EASY or cleaning is neglected.

What you really want to do is both *clean* and *polish*—and protect—the lens in one quick operation. Wherever sparks fly, or dust or lint accumulates to make goggles or glasses dirty and dangerous, what you really want is MAGIC LENS TISSUE. You need a big sheet, and that's what you get. *Each MAGIC sheet is over 50% larger than usual . . . yet each sheet costs less.*

It does its cleaning job fast, and leaves an invisible coating of silicone on lenses which protects them; gives sparkling clarity, longer clarity; makes cleaning easier, better, brighter, more lasting. It's General Electric silicone—from the G.E. House of Magic—that does it. No wonder the list of discriminating and diversified users has already swept the alphabet of industry from American Can to Zenith Radio. Go Modern! Go Magic!



NO BOTHER - NO WASTE - NO FLUID NO CUMBERSOME DISPENSER

The simple Dispenser, which has no moving parts, measures only $3\frac{1}{4}$ " x $7\frac{1}{2}$ " x $3\frac{1}{2}$ " over all. It is so compact, secure and indestructible that, if you wish, you need not put it at a Safety station. You can place it on-the-job at any job where needed, so that it is used while workers remain at work, without wandering around. No lost time.

800 jumbo-size, super-strength, superior sheets come interfolded in our Ready-to-Use Refill Cartridge costing only \$1.40 per packet, packed 6 packets per carton. All prices F.O.B. our factories. And the self-serving Dispensers cost only \$2.50.

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(H. W. & D. BRAND OF MERBROMIN, DIBROMOXYMERCURIFLUORESCIN-SODIUM)

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'Mercurochrome' solution keeps indefinitely; the color shows where it has been applied.

Physicians have used 'Mercurochrome' for more than 28 years.

Be sure to include 'Mercurochrome' in your first aid supplies.

*Reg. U. S. Pat. Off.



HYNSON, WESTCOTT & DUNNING, INC.



BALTIMORE, MARYLAND



New way of handling Long Distance

**Operator Toll Dialing proves a big help in these
busy days of national preparedness**

Long Distance lines are really humming these days. There are many more calls than a year ago. More are from the Nation's industries and Armed Forces, hurrying the country's most important job.

A big help in keeping these calls moving is Operator Toll Dialing — a remarkable new telephone development.

You give the Long Distance operator the number in the usual way. She quickly presses several keys and your call goes straight through to the telephone you want in a distant city.

It makes for faster service — especially on calls that formerly were relayed through other cities.

With so many more calls on the lines, it's a mighty good thing that Operator Toll Dialing was developed and is now available and in use in so many places. About one-third of Long Distance calls are now being handled in this new way.

It is just one of many ways in which the growth and improvement of telephone service are now proving of extra value to the Nation in these days of preparedness.

ANOTHER STEP FORWARD... More and more telephone users in a growing number of metropolitan areas can now dial Toll calls direct to nearby places the same way they dial Local calls... **BELL TELEPHONE SYSTEM**



hurls a line
550 feet



LINE THROWING GUN KIT

FIRES LIKE A SHOTGUN



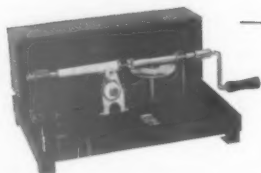
When there's space to span either in emergency or in industrial operations, the H&R Line Throwing Gun steps to the head of the line for speed, dependability, and frequently represents the only possible way.

It's easy for one man to carry and use this ingenious kit. Fired like a shotgun, it carries a 550 foot nylon line to establish contact with some distant point across water, fire or space.

Anyone can use the H&R Line Throwing Gun Kit and its presence in your tool or emergency kit will save many laborious hours... many exorbitant costs may be eliminated... injuries, and even lives, may be saved.

FREE BOOKLET with complete details and specifications on H&R Line Throwing Gun Kit, write Dept. S-1.

H&R LINE THROWING GUN KIT consists of: one .45-70 smooth bore hammer gun with canister attached; genuine walnut stock with recoil pad; box of 20 cartridges; 4 rolls nylon line, each 550 feet long; 4 wood rewinding spindles; 10 brass projectiles; one cleaning rod and one cleaning brush; one can of gun solvent. Weighs 30 pounds and comes packed in a metal reinforced fibre case 31" long, 10" wide, 7" deep.



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your men will surely wear
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Woven for coolness, styled for eye-appeal—yet it gives the foot protection your men need. A proved favorite for on and off the job, that your men will want and surely wear. Because Thom McAn is America's No. 1 shoe, workers know the name and wear Thom McAn Safety Shoes willingly. Place your orders now—for immediate shipment.



S-4355 - Woven moccasin type in chestnut brown with leather sole and rubber heel.

B 8-11	SIZES:	D 6-12
C 7-11		E 7-11
	EE 6-12	

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1. Stocked for your men in Thom McAn stores.
2. Sold direct to plants.

Details of this service, plus information on the 4-way employee purchase plan, and the Thom McAn safety shoe features, should all be on your desk. Just write us and we'll see that they get there.

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25 West 43rd Street, New York 18, N. Y.



A DIVISION OF MELVILLE SHOE CORPORATION



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For Accident Prevention



Generally speaking

There are a lot of very helpful Stonehouse Signs known as "General Accident Prevention Signs."

Their wide use by industry is proof of how really useful and helpful they are. Some of them are "Danger" signs; others "Caution" signs; still others "Notice," "Arrow" and similar well known Stonehouse types.

A few are shown here. Many others are illustrated, in full color, in our new Catalog No. 9.

STONEHOUSE steel SIGNS For Accident Prevention

If you haven't a copy of this new Stonehouse Catalog, 64 pages, may we send it to you? It's free on request.

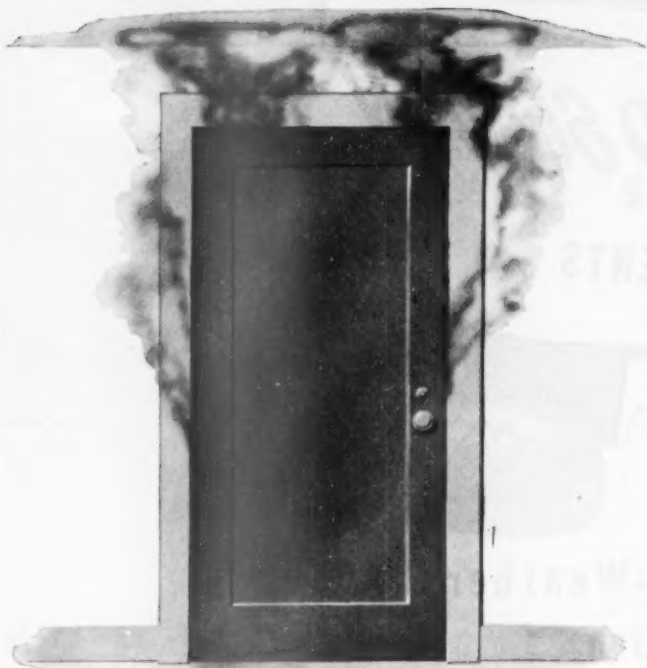
Stonehouse

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"Signs Since 1863"

Denver 4, Colorado





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Are your contracts, blueprints, accounts receivable—the records that keep your business going—really safe?

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NO CLOSED SEASON
ON TOE ACCIDENTS

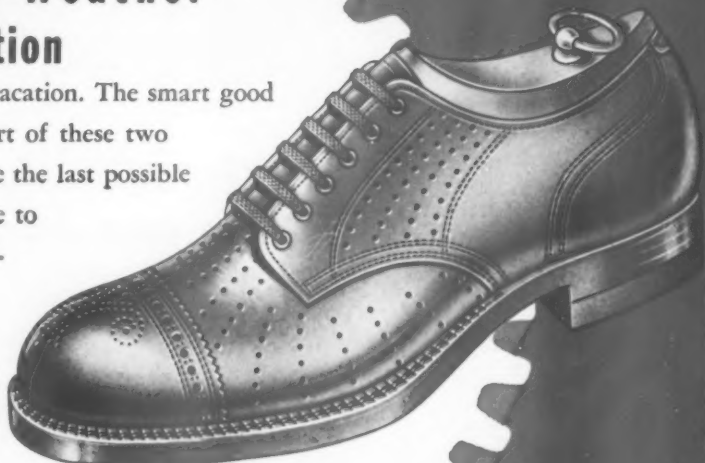


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NATIONAL SAFETY NEWS

APRIL, 1951

The Millionth Traffic Death

TRAFFIC ACCIDENTS will claim their millionth victim in 1951, unless we act vigorously and quickly. This tragic milestone in the history of senseless and tragic waste is very likely to be passed in December—giving us a bitterly ironic Christmas present.

Industry cannot afford to sit idly by in this situation. It is true that the majority of traffic accidents do not involve employees at work, do not involve legal liability for industrial concerns. But all industry is the victim of every accident—and all industry has a capacity for service in this field of accident prevention.

I know that I do not have to stress the importance of a sound safety program for those of your employees who drive motor vehicles as part of their jobs. Your response to our offerings of safety services for professional drivers and vehicle fleet administrators shows an increasing awareness of this problem.

But there are still many companies which feel that they need do nothing about traffic accidents in their communities which do not involve company vehicles.

Let me restate the reasons why you should be concerned with the control of all traffic accidents in your community:

1. They may kill and cripple workers on your payroll, thus interfering with production and dislocating your organization.

2. They may involve members of your employees' families, and the resulting injuries and property damage are certain to be a personal and financial burden on your employees.

3. They cause a heavy drain on community resources—and you contribute the lion's share of these resources through taxes and contributions.

4. They cause a constant, heavy drain on the purchasing power of your customers.

5. Most important of all, when accidents injure your employees and their loved ones, they injure your friends, the followers of your leadership, people whose welfare is a matter of far more than economic concern to you.

Granting these points, the objection still might be made that other agencies are better adapted to dealing with the problem than is your company. It is certainly true that you cannot do the job alone. But you can play an important part in the total co-operative pattern we must build as a bulwark against traffic accidents. Here are some of the specific things you can do:

1. You can educate your employees about safe driving and walking. Your workers are within easy reach of announcements, bulletins, posters. Perhaps you have employee safety meetings. Perhaps you have an employee magazine. Certainly your foremen are in constant contact with employees. Through such channels, the story of traffic safety can be told effectively.

2. You can support organized community safety efforts, led by chapters of the National Safety Council, local safety councils, motor clubs, PTA's, service clubs and so on. The greater the stature of your company in the community, the more powerful your support can be.

3. You can support a far-sighted, vigorous effort by public agencies to improve driver licensing, highway engineering and design, and enforcement of traffic laws.

The millionth traffic death *can* be postponed. You can help postpone it. Won't you help?

Ned H. Dearborn

Without recognition of the individual's part

results in safety work are sure to be disappointing

It's a Human Problem

By E. B. McCONNELL



THE AUTHOR: E. B. McConnell is Vice-President, The Standard Oil Company (Ohio). This article is based on an address before the Greater Cleveland Safety Council.

YEARS ago management was inclined to look upon the worker as a person interested only in the pay check. The worker was, in fact, receiving a great favor just to be kept on the payroll. He was an animated machine; a unit in a mass of statistics. Management was so intrigued by and involved in the newly discovered principle of mass production that it seemed logical and reasonable to apply the same principle to human relations.

So when the industrial engineers, the psychologists and the industrial relations experts began to get the attention of management about 30 years ago, the application of their ideas tended to be on a streamlined, pat formula basis. A canned program or system was worked up at the top and imposed on supervision and rank and file with a "that's that—let's go to the next problem" attitude.

Safety was, in general, handled the same way. For example, if a worker cut off his finger in a machine, that safety problem was solved by putting a guard on the machine. The safety effort was directed at the machine, with little or no thought given to the part that the worker had in the accident. While the guard helped, there were still many machine accidents.

While these industrial relations

gimmicks accomplished some good, they failed to get at the root of the problem, because there was no real understanding of the character of the industrial society that free American energy and ingenuity has created. In other words, we didn't recognize our own child.

In my opinion, the best study of our present social order is Peter Drucker's book *The New Society*. In this book he points out that "the means of production is the organization rather than machines or tools." By "the organization" Drucker means that efficient combination of management, tools and workers which comprises the modern American business production.

Lost Prestige

He further points out that it is "the organization rather than the individual which is productive." No one part of the organization is of primary importance, no one part can produce by itself. It is the combination, the "whole," that is important to society, and upon which society relies for its goods and services.

From this it follows that social status, social prestige and social power no longer attach to the work of the individual, but only to his job. In the old days, the local carriage maker was an important man because he was a skilled arti-

san whose work met an essential need of his community. His counterpart, today, has a job on a moving assembly line where he tightens a nut on an automobile that will be sold to a stranger thousands of miles away. Now, the worker is important only because he is a part of the organization, not because of the work that he, as an individual, does.

Since he feels that he is important as an individual, this concept comes rather hard to the worker, and is, therefore, at the root of most of our industrial relations problems. Unless the worker understands the part he plays—his contribution to the proper functioning of the organization as a whole—he will feel that the system deprives him of status and prestige which, to him, are an absolute necessity. In other words, he must feel that his importance as an individual is recognized by society, the company, and his fellow workers.

The key, then, to the human relations problems in industry is the individual worker.

To be a happy, efficient, safe worker the individual must be given social status and function in the plant community. He must

have a sense of purpose—a feeling that through his job he is making his contribution to society. He must understand that he is a part of an organization which is serving society by furnishing the goods or services that society needs and wants. He must be shown the relationship of his job to the work of the whole organization.

A Christian Principle

How can it be done?

I believe you will recognize that what is needed is a return to the Christian principle that it is man as an individual that counts, not man in the mass. In fact, the recognition of the sovereignty and dignity of the individual is the basic distinction between this country and the totalitarian countries of Europe and Asia.

We need only to learn how to apply this principle to the industrial order to achieve even more satisfying results than our remarkable record of the past 100 years.

We cannot meet our objective through any one-shot, cut-and-dried program. Confucius is quoted as saying, "The desire to have things done quickly prevents their being done thoroughly."

From my company's experience in safety and communications, and our efforts to improve worker attitude and morale, I am convinced that a long-range, grass roots approach is the solution. By this I mean all efforts should be directed at each worker as an individual.

In my opinion the first step in such an approach is to develop an informal, day-to-day relationship between the worker and his supervisor through which the worker may come to realize that his own personal desires and objectives are closely associated with those of the organization as expressed by the management.

It goes without saying that the supervisor himself must be a fully accepted member of the management team and must understand the makeup of the organization and what its function and purpose is before such an informal day-

to-day relationship can be expected to accomplish its objectives. Furthermore, he must know that such a program has the active and enthusiastic participation of top management and all the other levels between him and the top.

Even so, it may take months, even years, for the average supervisor to gain the confidence of his men and create an atmosphere where there is a natural, easy exchange of ideas and information about the company and the job. For some supervisors this is only "doin' what comes naturally"; for most it is very difficult.

Safety is a subject of prime importance to the organization. Since it is also relatively easy for the worker to appreciate its importance to him as an individual, safety provides the supervisor with an acceptable channel through which to make a start. He is backed by the usual manifestation to top management interest, such as a safety engineer, a union-management safety committee, safety posters, and an interplant safety contest. He may take a few minutes once a week on the job to discuss safety with his men singly or in small groups of five or ten. Visual aids and a prepared talk will help him overcome any shyness. He invites discussion and suggestions. In a short time he will find the conduct of such meetings getting easier, for both him and his men. He will find he can easily arouse greater interest and wider participation.

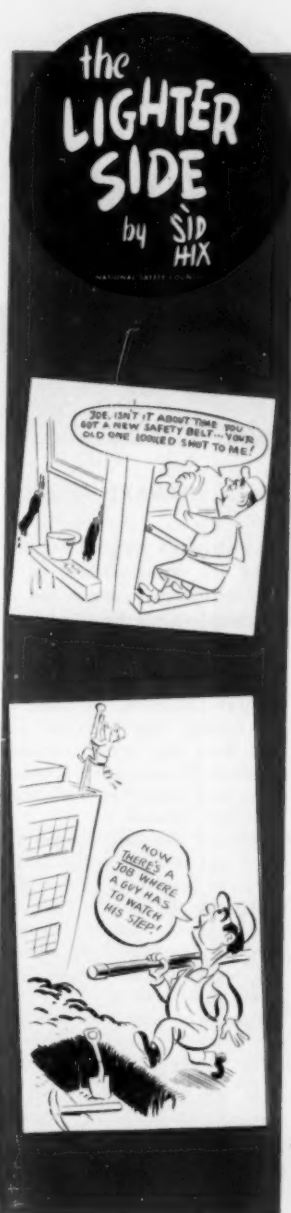
Pride in the Record

The results of such a program have been especially effective at our Latonia, Kentucky, refinery, where 270 men have worked 1,117 days, or more than three years, without a disabling accident. It has become a point of honor to avoid accidents. No man in that plant wants to be the one to break a perfect record.

As soon as these safety talks have become a natural part of his work, the supervisor finds that it is an easy step to other topics. He may explain the whys and where-

fores of the day's job; he may invite suggestions on the best way of doing it. Perhaps he can tell the men about a new piece of

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All Out



Crewmen put foam nozzle through test, using can of foam liquid and pick-up tube.

Diagram of mechanical foam installation on the ATLANTIC SEAMAN, built for Philadelphia Tankers, Inc., and chartered by The Atlantic Refining Company.

By J. HOWARD MYERS

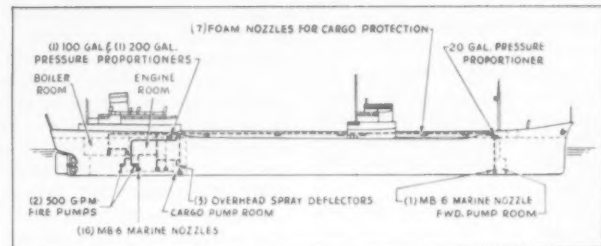
The world's largest tanker and its combustible cargo are effectively protected by a complete mechanical foam fire-extinguishing system

TWO "FIRSTS" in maritime history were recorded last year when the *Atlantic Seaman* slid down the ways at the Camden, N. J., yard of the New York Shipbuilding Corporation.

Not only did this ship take the No. 1 spot as the largest oil tanker afloat in the world, but it also could make the claim of being the first vessel ever launched with a complete mechanical foam installation for protection against flammable liquid fires.

Heretofore some ships had used

THE AUTHOR: J. Howard Myers is Director of the Safety and Fire Prevention Division, The Atlantic Refining Company, Philadelphia, and a member of the Special Extinguishing Methods Committee, National Fire Protection Association. His indebtedness to the following for their work in perfecting the installation described in this article is hereby acknowledged: Dr. Lester M. Goldsmith, chief engineer, The Atlantic Refining Company; L. W. Boerner, chief engineer, National Foam System, Inc.; Capt. William G. Anderson, manager of operations, Marine Division, Transportation Department, The Atlantic Refining Company.

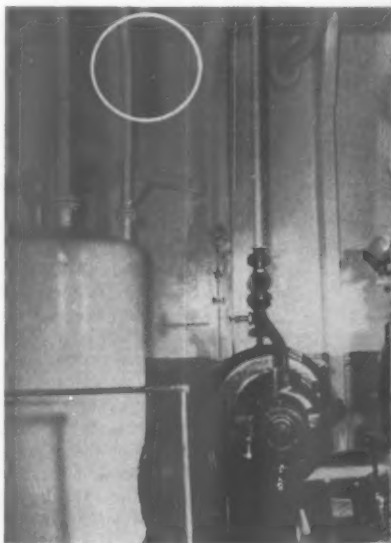


chemical foam (produced by mixture of two chemical solutions) or other foam-producing mediums. But mechanical foam (produced by mixing air with a protein-base solution) was selected for the *Atlantic Seaman* for two important reasons: Simplicity of design and ease of operation. The mechanical foam liquid is the same as that used with so much success during the last war and dubbed "bean soup" by our Navy.

A valuable addition to the 19-ship fleet of the Atlantic Refining Company, the *Atlantic Seaman* was designed jointly by the engineering staffs of Atlantic Refining and New York Shipbuilding. The huge vessel is the first of three sister ships now being completed.

Standing on end, it would reach over halfway up the Empire State Building. The super tanker is more than 659 feet long, well over the length of two football fields from

One of three overhead foam spray deflectors (circle) in aft pump room which protects pumps and overhead piping.



for Fire Protection

goal line to goal line. If the ship were to arrive in port with her cargo tanks filled with gasoline, she would have enough to keep 16,207 automobiles running for one year, each car traveling 10,000 miles at 15 miles per gallon.

In addition to her size, the *Atlantic Seaman* can boast of the most modern equipment found today on bulk oil vessels. Spacious deck houses enclose stateroom type accommodations for officers and men. All of the latest navigational aids have been provided, including radar, fathometer, loran, gyro compass and gyro pilot.

An unusual feature of the *Atlantic Seaman* is its use of 1020°F. steam for turbine drive, highest temperature steam ever found on commercial vessels. The fact that large oil cargoes are involved is

the reason for such extensive protection against fire emergencies.

Major source of fire protection for this "Queen Elizabeth of the Oil Routes" is its Aer-O-Foam installation, supplied by the National Foam System, Inc. This mechanical foam installation, designed to combat flammable liquid fires, protects the ship from stem to stern. Equipment on the main deck protects that area. The installation also provides "topside" protection for outbreak of fire below decks, i.e., an operator can open a few valves and quickly put the foam into action without having to go below into the fire area. On the other hand, as soon as the fire is extinguished, the operator can go below decks immediately, which would not be possible with other types of fire-fighting systems.

As shown in the accompanying diagram, two 500 g.p.m. fire pumps supply water for the entire mechanical foam system. Two pressure proportioners are located in a compartment on the main deck aft (100 gallons for small fires, 200 gallons for large ones), and a 20-gallon proportioner is located on the main deck forward. As water flows from the pumps through the fire main, these proportioners inject the proper amount of foam liquid into the stream. Then the solution travels

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One of six marine nozzles (arrow) in boiler room for delivering foam to floor area. Dry chemical hand extinguisher is in foreground.

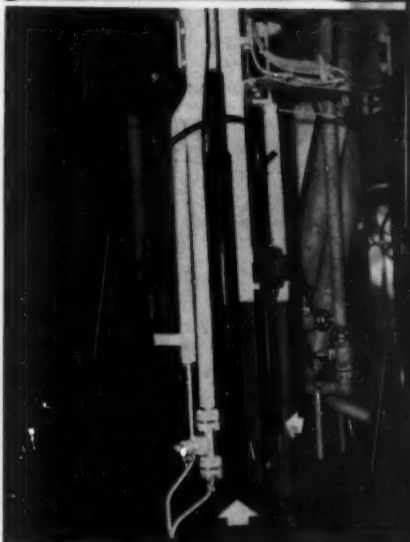
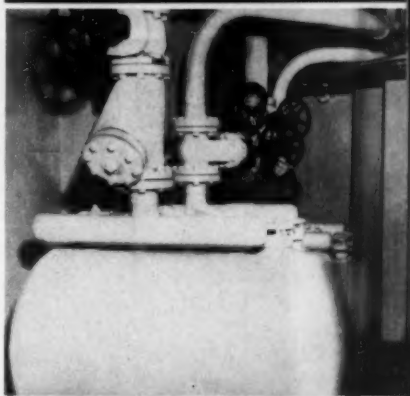


RIGHT — TOP TO BOTTOM

This 20-gallon proportioner is located on the main deck forward. Dry chemical hand extinguisher is also shown.

Turning water valve to set 200-gallon foam liquid proportioner in operation. Note 100-gallon proportioner in rear.

Another marine nozzle (large arrow) in boiler room. Carbon dioxide cylinders, trunnion reel, and control nozzle (smaller arrow) also shown.



Safety at Every Stage

"A life for every floor" used to be par for skyscraper construction. Safety organization and engineering methods have made that idea obsolete.

BOSTON'S tallest building, the new home office of the John Hancock Mutual Life Insurance Company, has the additional distinction of having been one of the safest construction jobs on record.

"The smoothest job in my experience" is the way Safety Engineer William G. Stephenson described the construction of the

26-story project. There were no fatalities chargeable to negligence and accidents were fewer and less severe than might have been expected in a project of its size and type.

As a representative of the Liberty Mutual Insurance Company, which insured the main contractor, Mr. Stephenson was on the job before the ground was broken and

continued with it until the formal opening.

A basic reason for the record was the splendid cooperation by the main contractor, the Turner Construction Company, the subcontractors, by the architects, Cram and Ferguson, by the John Hancock Mutual Life Insurance Company, by Liberty Mutual, the city of Boston, and the men on the job.

The job started off well and pride in the safety record increased. Nobody wanted to spoil it.

The first major, and dangerous, project was moving 1,637 steel piles, each weighing seven tons and measuring about 120 feet, through the streets of Boston. With the cooperation of the city, traffic was rerouted so that the piles were moved quickly to the site of the building. No damage resulted from this tremendous job. Only 18 days' time was lost through accidents in both transporting and driving the piles—an operation stretching over seven months.

Helpful suggestions were received from many sources. Following are examples: Traffic was routed around the building site to permit the least congestion and greatest safety. Construction of an observation platform for sidewalk superintendents until all concerned were convinced that no hazard to the watching public

* * *

Neatness and good housekeeping were in evidence from the start. When excavation started, a temporary barricade was erected to keep spectators at a safe distance. Later an observation platform for sidewalk superintendents was erected.

The working area for the 26-story building covering an area 250 feet square was covered with pile drivers, stiff-leg derricks, crawler type cranes, timbers, and the piles to be driven. Note the fence barricade.



could result. Long before the first snow fell, sand piles were strategically placed around the excavation.

Construction of the building was practically a community project. It is the largest building yet erected in Boston and the first constructed on a steel pile foundation of this type. It was the first big project in Back Bay in several years. Perhaps because of this public interest, city building inspectors made frequent visits to the site. This, Stephenson says, was another factor in keeping everybody on the alert.

The Hancock job was unique in the lack of clutter so often found on construction projects. Everything was carefully planned and very little was left lying around. When it was, a single phone call was enough to correct the situation.

Safety rules were rigidly enforced. One day Mr. Stephenson and the project manager made an impromptu visit to the site. They were noticed by the job superintendent, Robert Hazard, who warned them to put on hard hats or get out.

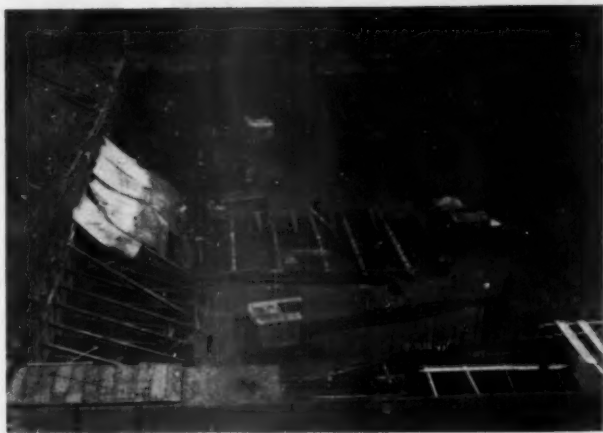
The Liberty Mutual health clinic across the street also contributed to reduction of time lost through minor mishaps. With the clinic so accessible, men were less reluctant to leave their jobs for treatment.

• • •

Ready-mix concrete trucks delivered concrete to the site as each pour was ready for concreting. Good housekeeping was typical of the entire job, which greatly reduced chances of injury. Sloped banks were kept clean and debris and rubbish picked from them.

A well-constructed ramp provided access for trucks. Left hand traffic was decided upon to allow a full and wide turn of the loaded trucks when entering the bottom of the ramp. The entry into traffic at street level was made easier by use of the left-hand traffic system. A watchman was on duty at the ramp entry at all times to direct trucks in and out.

To ease congestion at the site, arrangements were made for one way traffic on the adjacent street. The building, now completed, is the home of the John Hancock Mutual Life Insurance Company.





Not all materials can be handled by mechanical equipment but manual methods can often be improved. Here an operator is handling steel conveyor slats at a 1200-ton hydraulic press. Note that the material is at a convenient working height and that the operator's motion path is from left to right. This avoids lifting and unnecessary motion.

In contrast to the picture at the left is this mechanized operation on a Cross Transfer-Matic machine tool. The machine is automatic and it is not necessary for the operator to go near any moving spindles or cutters. The machine has 54 stations—1 loading; 6 milling; 23 drilling, reaming and counterboring; 2 tapping; 21 inspection; 1 unloading.



Materials-Handling Equipment In Action

By J. R. CLEMENS

SAFETY is important to all departments in all industries, but nowhere is it more important than in operations involving the handling of materials. A large proportion of the direct labor man-hours in all industry is related either directly or indirectly to some form of materials handling.

As an example, this figure has

been estimated at 60 to 90 per cent in the steel industry. Also, it has been stated that 70 per cent of personal injuries in the steel in-

dustry occur during the handling of materials.

Motions required for manually lifting and setting down heavy

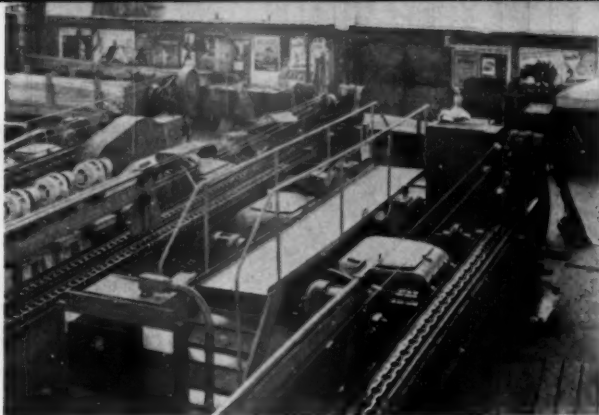


Handling materials at a loading dock. Two floor-operated cranes with five-stop speed controls extend over loading dock and trucks. These are safer and more efficient than the jib cranes previously used. Fork trucks are used for some types of loads.

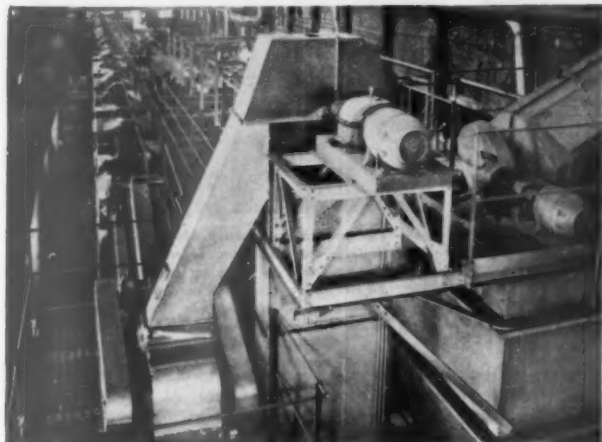
THE AUTHOR: J. R. Clemens is Plant Engineer, Link-Belt Company, Philadelphia. This article has been adapted from a paper presented at a Joint Meeting of the Pittsburgh Chapter, American Material Handling Society; American Society of Mechanical Engineers, Western Pennsylvania Chapter, and American Society of Safety Engineers, Western Pennsylvania Chapter, at Mellon Institute, Pittsburgh, December 13, 1950.

objects, carrying, rolling, sliding, pulling, shoveling, etc., create hazards that result in disabling injuries — many of them serious.

Improvement in the safety of materials-handling operations may be considered from two general standpoints: education and equipment. It is important for management to establish and publicize a workable safety policy, and to assign definite responsibility and authority for carrying out the



If conveyor is more than 18 inches wide, crossovers with stairs and handrails and extending above the load clearance on the conveyor should be provided.



←
Head end of foundry bucket elevator used for handling sand, discharging into belt conveyor. Note guarding and walkway for access by maintenance men.

policy. Technical and operating groups should be trained to look for unsafe conditions and co-operate in preventive measures.

Use of properly designed materials-handling equipment greatly reduces the hazards normally incident to or associated with manual handling. Machines that lift, transport and lower heavy loads; that convey hot or toxic materials; that shake out dusty sand, or unload railroad cars, are usually

Pallet racks improve efficiency of fork trucks and eliminate many hazards of piling. This illustration shows an adjustable shelf pallet rack. Bottom pallet can be removed without disturbing loads above it. Ample room must be provided to maneuver truck.

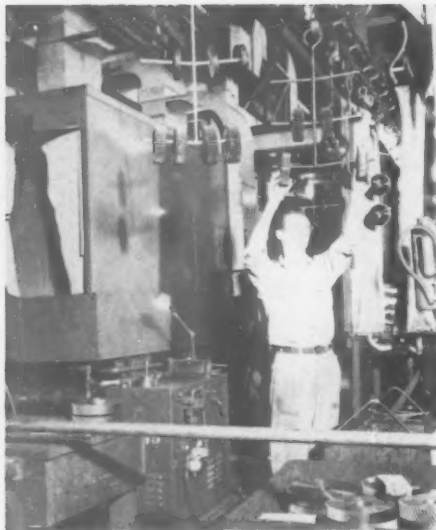


Important safety devices have been developed for fork trucks. This illustration shows an overhead guard on a 3000-pound capacity truck. It prevents the load from toppling on the operator's head when the forks are in the elevated position.





Mono-rails are usually quite safe if load bars are used to suspend bulky loads. Here are right and wrong methods of suspending such a load. The transfer hook shown is used to transfer the load from an overhead crane to the mono-rail without "swinging" the load.



Many electrical safety features are incorporated into conveyor design. This trolley conveyor is interlocked so the exhaust system must be operating before the conveyor will start. Where trolley conveyors pass from one building to another, fire doors with fusible links are installed. Closing of fire door trips a switch which shuts down conveyor.

controlled by operators removed from danger zones. In such installations, men are not exposed to the real hazards of handling and they do not endure the fatigue of doing the job by hand.

Materials-handling equipment should be designed and installed by competent engineers, and should be operated and maintained to insure maximum safety for the worker. During the planning stages of a project, all who will share in the responsibility for safety should study the layouts for potential hazards.

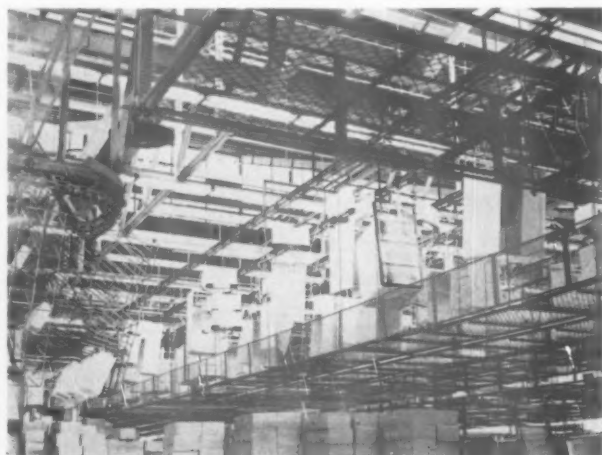
In addition to safety in basic design of machinery, it is important to provide ample clearance around stationary units, access for safe maintenance, suitable guards, protective shields, warning signals, safety switches, deadman controls, and other devices that may be required by American Standard Codes or that may be considered necessary for foolproof operation.

Considering the relatively high proportion of man-hours required to handle materials in most in-

dustries, as well as the strenuous and hazardous nature of many operations, materials handling deserves first place in any safety program. The problem becomes more acute in the face of man-

power shortages and increasing employment of women and older men to meet production demands.

Some of the results of good engineering are shown in the accompanying illustrations.



Trolley conveyors make ceilings pay dividends. This conveyor handles enameled refrigerator parts overhead. Guards are provided to catch any parts which might fall.

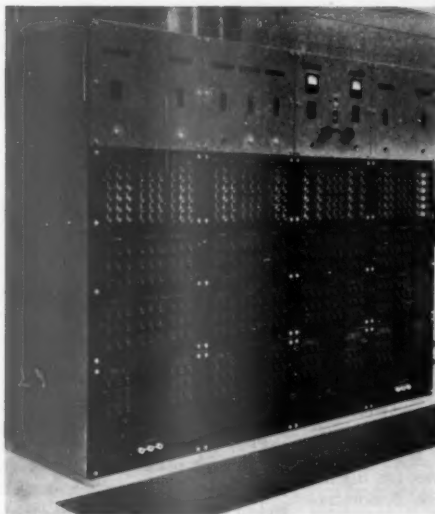


Figure 1. Junior electrical engineering laboratory switchboard.

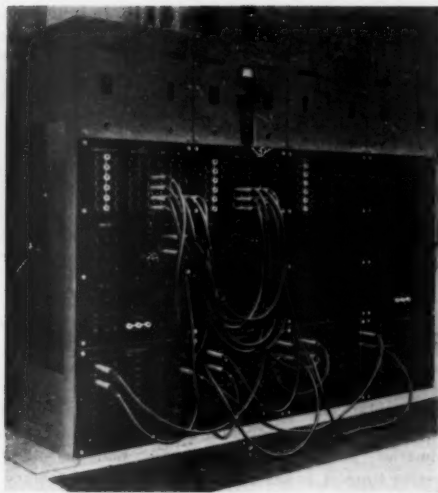


Figure 2. Senior electrical engineering laboratory switchboard.

Electrical Safety in Experimental Laboratories

By CHARLES F. DALZIEL

EXPERIMENTAL laboratories may be divided into three general types: industrial, research and instructional.

Instructional laboratories may be vocational, or junior or senior college level. They are places where large numbers of students first become acquainted with laboratory techniques.

Research laboratories may be situated in educational, commer-

cial, or other organizations. In any case they can be regarded as places where advanced instruction is carried on or where investigations of a highly technical nature are conducted. These include investigations of high-voltage or high frequency phenomenon, or other work utilizing highly specialized apparatus.

Industrial laboratories may be considered as including a wide range of facilities where operators may be semi-skilled, and where testing is usually of more or less routine nature.

Raising the level of safety in experimental laboratories requires the active cooperation of many individuals, and of at least a few to whom safety is an affair of the heart. In educational laboratories, for instance, the passive attitude of

many professors to safety matters may be reflected in the attitude of the teaching assistant, and thus passed on to the students.

It may be taken for granted that there is a difference in the practicability of prescribed safety requirements for commercial and educational laboratories, but this does not explain why regulatory bodies so often refrain from assisting educational institutions in eliminating hazardous conditions and in promoting better practices.

The breach in safety consciousness between the practicing engineer and the manufacturers of commercial equipment on one hand, and the educator and the manufacturer of experimental laboratory apparatus and instruments on the other must be bridged. Raising the level of safety in ex-

THE AUTHOR: Charles F. Dalziel is Professor of Electrical Engineering, University of California, Berkeley, Calif. This article has been condensed slightly from a paper presented at the Summer and Pacific Coast Meeting of the American Institute of Electrical Engineers, Pasadena Calif., June 12-16, 1950. The author acknowledges the valuable help received from his associates in the preparation of his paper.



Figure 3. Self-protecting 100-ampere plug lead.

perimental laboratories and the anticipated future reduction of industrial accidents requires the active support of several branches of the profession.

Accident causes are of three types. The poorly trained man may be injured because he is unaware of the existence of a given hazard. The advanced student may become involved in an accident because he is not alert to a known hazard. Any worker may suffer serious injury because he disregards an obvious hazard. Whatever the cause, the laboratory supervisor assumes grave responsibilities for the safety of his personnel, and in case of serious injury he may find himself suffering remorse and loss of professional prestige, or if his neglect is gross and obvious, criminal charges and loss of his job.

For this discussion we may assume that all permanent equipment in a laboratory has been installed according to prescribed safety standards, and that the areas of hazard are associated with laboratory switchboards, and portable or semi-permanent installations of machines, transformers, switchgear, instruments and related devices. Such equipment is usually connected with portable leads, and either because of necessity or convenience, adjustments or changes in connections are often made while the equipment is energized.

In instructional laboratories, one of the difficulties of enforcing safety arises from the fact that in large institutions a laboratory class may consist of 12 to 20 students under the direct supervision of a teaching assistant. Although care is taken to make sure that the supervisor is a man of promise, it is likely that he has had little practical experience, and this may be his first experience in assuming authority.

The sizable group, limited experience of both students and supervisor, and youth's inherent tendency for "horseplay" contribute to potential hazards. An essential step in coping with this situation is the scheduling of a regular period at the beginning of the laboratory course for discussion, preferably with demonstrations, covering the operation and adjustment of circuit protective devices, safe laboratory practices, location of first-aid kits and fire extinguishers, effects of electric shock on man, rescue of a victim from the circuit, and approved methods of resuscitation.

In research laboratories, hazards due to the higher voltages frequently used are somewhat offset by the smaller group being handled, and to the greater competence of both researchers and supervisor. Where high-voltage equipment is used, (voltages in excess of 600 volts) warning signs, safety-interlocks, and an adequate supply of barrier tape and rubber goods maintained in good condition must be provided. All non-current carrying parts, such as machine frames and instrument transformer secondary circuits must be effectively grounded.

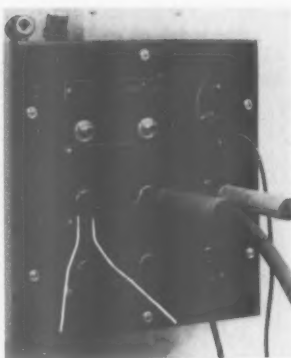


Figure 5. Laboratory distribution panel with typical leads.

Perhaps the most pressing hazard in such places is the tendency for a researcher to seclude himself and to work alone for hours, often late into the night. No man should be allowed to work on energized high-voltage high-power equipment out of sight of associates. Although it is essential that warning signs be placed at appropriate locations, the use of such warnings must be limited, as there is truth in the old saying "familiarity breeds contempt."

Although a painstaking effort must be made to reduce hazards to as low a level as practicable, acceptable minimum standards must be based upon the conditions existing in the particular laboratory considered. For example, some of the practices which should be prohibited in vocational or junior laboratories might be considered tenable in research laboratories, in which case they should be recognized as a normal risk of

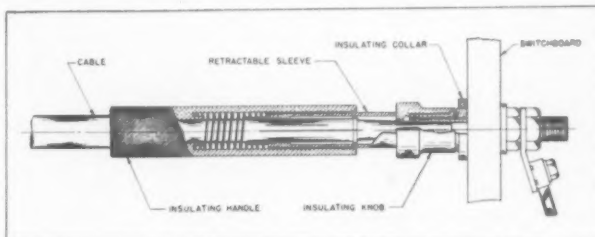


Figure 4. Details of 100 A. tapered plug and knob binding post.

the venture. Furthermore, after a period of training a young man reaches the status of a properly qualified or authorized person, and the relative hazard of a given situation may change accordingly.

For economic reasons safety requirements must be kept within reasonable limits and confined to areas where real hazards exist. Certainly no effort or expense should be spared in the prevention of accidents, but it is essential that potential hazards be carefully evaluated. Money should not be spent where the possibility of injury is remote, if not nonexistent.

In educational institutions, the prevention of student injury is important, but a greater purpose is to make each student safety minded. The most certain road to reduction of industrial accidents is to create safe thinking and working habits during the training of the young engineer. Although reduction of electrical hazards is essential, it would be a grave mistake to eliminate all hazards during the training period. Such a procedure would inevitably result in lack of appreciation that industrial hazards exist, and it would most certainly lead to an unhealthy attitude regarding safety in gen-

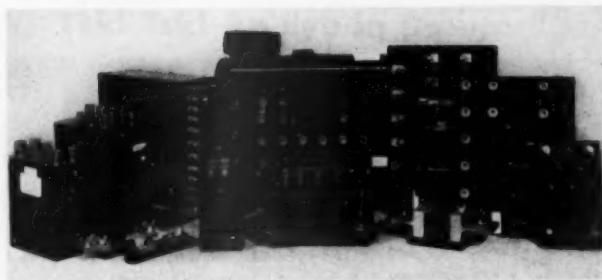


Figure 7. Commercial devices having let-go hazards.

eral. It is important that the young man, early in his training, be led to recognize the potential hazards of his chosen profession. This consideration does not, however, justify continuation of preventable hazards.

The general safety problems in experimental laboratories are illustrated by the procedures in instructional laboratories, where operations include demonstration, testing and circuit synthesis. Although demonstrations may be effectively conducted using totally enclosed apparatus, experiments involving testing and synthesis often require ready access to energized components. Experiments which last only three or four hours

may require several changes in connections and adjustments in addition to measurements at various points, and in many cases, these operations must be made while the apparatus is energized.

Enactment of regulations requiring that all equipment be totally enclosed, or dead-front and dead-back, would result in serious impairment of instruction. Quite aside from the undesirability of impairing instruction, elimination of all hazards would fail to develop the student's conviction that electricity is potentially dangerous, and it would fail to develop proper respect for bare copper. As a result, many educators feel that it is essential that the student be placed in proximity to low-voltage circuits, busses, contactors, commutators, etc.

A great deal of thought has been given to safety in the design and layout of the electrical engineering laboratories in Cory Hall, the new electrical engineering building at the University of California, Berkeley. Obviously, the first requirement is that all permanently installed laboratory equipment complies with the Electrical Safety Orders of the State of California. However, it is difficult, if not impossible, to apply prescribed rules to much of the equipment used in laboratory instruction, and the second step is to classify hazards and the study of ways and means of reducing them. A classification of hazards in experimental laboratories is given in Table I.

A general approach to these hazards is as follows. It is con-

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Figure 6. Typical control equipment used for instruction of seniors and graduates.



JOE'S A SMART GUY

(Fiction)

By BILL ANDREWS

April 2, 1951

Joe Kawalski dropped in this morning, wearing a necktie at work for the first time in history.

"Congratulate me," he said.

"Sure," I replied, "Congratulations. Now tell me what I'm congratulating you for."

He laughed. "I'm a straw boss. Just got the word last Friday an' started learning the job today. I'm in charge of a gang handling stock in the new warehouse annex."

I congratulated him again. He sat on the edge of my desk, luxuriating in his success. Then he turned a little serious.

"Y'know," he said, "I really owe you a lot. I'd still be shovin' a truck if I hadn't run into you—or else I'd ha' been fired or quit long ago."

He was partly right. When, in

my first weeks on the job, I first met Joe, he was a malcontent, a tough guy, proud of his toughness, of his strength. The men turned to him instinctively, as to a stronger character, and he infected them with his wrath at authority, his irritations and his extreme shortsightedness.

But the spark of leadership was there, no matter how distorted. I didn't create that—but I'll take credit for being smart enough to see it and to put Joe to work on safety in the warehouse.

Joe had a capacity to learn. He started making wildly profane safety talks. He learned to use a Safetygraph. In safety committees he became a little smoother, a little wiser. I took him to a couple of National Safety Congresses, and he fumed under the wearing strain

of listening to speeches—but he came back with ideas, and he did his clumsy best to apply them. And there came a time when his best wasn't so clumsy.

I said some of that to Joe, stressing his own personal qualities, minimizing my own part in shaping him. Finally I asked the obvious question, "What can the safety department do to help you as foreman?"

Joe said, "That's what I really came to talk about. I'm going to run the darnedest safety program you ever saw in that section. I want the best safetygraphs, training films, and material for talks. I want a lot of posters, an' I'm going to start a safety committee."

Jim Mason, my right hand man, came in just in time to hear those last statements of Joe's. His eyebrows went up, and he pursed his lips in a silent whistle. But his face was bland when he shook Joe's hand, saying, "Heard the good news, Joe. Congratulations. So you're going to be Leonard's boy from now on!"

I understood, then, Jim's raised eyebrows and whistle. It hadn't occurred to me to ask Joe who had the job as top man in the new annex. Leonard is one of my failures—a good supervisor in the eyes of the front office, but hard and cold, concerned with getting the job done fast and cheap, and almost completely unconvinced that safety is anything that will help him get it done.

Joe answered Jim, "We'll get along. He's tough, sure, but I'm tough, too, an' we'll get the work out an' build a safety program at the same time. We're the same kind of guys."

I thought to myself, "No, you're not. All Joe's toughness is on the surface. Leonard's goes deeper. And where Leonard is tough and cold, Joe is tough and warm."

Jim said, "He'll take some selling on safety, Joe."

Joe blinked. "Hub? Why should he?"

Jim shrugged. "Everybody does. And we haven't got him sold yet. You'll have to watch your step, or

he'll figure you as a crackpot."

Joe frowned. "I don't get it. I'll move his stuff for him, fast an' good. I'm getting two of the best guys in my old gang to break in the new kids. With them as pace-makers, Leonard'll be tickled at our output. An' if I do it without breaking any necks, he ought to be glad o' that, too."

Jim nodded. "He will be, Joe. But he won't be if, right off the bat, before you've built your record, he walks in on a series of safety meetings. He'll hit the roof and holler that you're wasting time on a lot of hot air."

Joe glowered. "I don't get you guys. You're always yapping for more an' more safety, an' here I'm made a foreman, an' I say, 'O.K., now we'll go to town on safety,' an' all you guys do is try to slow me down!"

I picked up the argument. "Joe, you know we like you and admire you. We know you're a leader, and that if you play your cards right, you'll have bigger jobs than this one you're starting today. And we know you're on our team."

"We've got a stake in you. And we're a lot more interested in how much safety work you do in the next five years than we are in how many meetings you hold in the next two months. If you show Leonard how well you can organize and lead that crew, how much work you can turn out, then you'll have his respect. He'll give you a free hand, then. Maybe your enthusiasm for safety, along with your production record, will make him more friendly to safety work in general."

Joe scratched his head. "Yeah, I can see some sense in that. Maybe I can swing him, where you guys have flopped. An' maybe he's like me, kinda scared as well as cocky, 'cause he's just startin' the biggest job he's ever held. An' so maybe he'll be kinda edgy an' feeling he's gotta butt in on everything to make sure things get started right. But, golly, I hate to let safety slide when I'm just gettin' started myself. It'd be so much easier to train these guys right from the start

Tsk! Tsk! An Eye in Danger?



Perhaps it's just the angle from which the picture was taken but it does look as though the gentleman at the left is in danger of losing an eye from the projecting plumage on the bonnet of Hedda (The Hat) Hopper. Miss Hopper, guest of honor at the annual Industrial Award Dinner of the Los

Angeles Chapter, NSC, is shown here with John McKenzie, director of safety, General Petroleum Corporation, which placed first in its division, and C. B. Tibbits, president, Los Angeles Steel Casting Company and principal speaker. Hedda entertained them with her experience as a woman driver.

than it will be to hit 'em later with safety stuff, after they've learned a lot of bad habits."

Jim beat me to the reply.

"Joe," he said, "don't wait. Get those guys started right. Give 'em plenty of safety, beginning today, beginning now!"

Joe got mad. "You're a pair of double-talking fat heads. First I mustn't do nothin'. Now I gotta do everything. Make up your fool minds, will you?"

Jim plugged ahead: "Look, Joe, nobody said lay off safety. We said lay off a lot of meetings, films, Safetygraphs—any kind of safety work that makes it look to Leonard as if your guys are just standing around gold-bricking."

"You know, just as well as I do, that the heart and guts of safety work in a section like yours is per-

sonal contact between the supervisor and his men. Leonard knows you're starting with a skeleton staff of experienced men, a majority of greenhorns. He's a smart enough boss to know you've got to work close with the men."

"And you're smart enough to know that production as well as safety will be helped if a lot of that work with new men individually is concerned with loading their trucks so they can see, wearing safety shoes, watching blind corners, stacking stuff on skids properly."

Joe interrupted. "I get it. I get it even better than you guys do, 'cause I really know what a green trucker needs to get him started right. I know the tricks of lifting, an' the tricks of shoving a truck."

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A Civil Defense worker takes a "dose reading" with his "dosimeter," a small instrument which measures radioactivity. When held to the eye, concentration is recorded on a scale which is visible against the light.

THE people of Britain know what war means for the civil population, for no nation has a longer or more varied experience of aerial warfare. One part or another of Britain was under fire throughout most of World War II. On this experience a big volume of special knowledge and skill has been built, which provides a valuable basis for an effective Civil Defense in any future war.

Experts from other countries have come to study the Civil Defense organization of Britain, and to take the special courses.

Civil Defense is quite distinct from active defense against air attack, for it presupposes successful enemy attacks on civilian targets, and seeks by every possible means to minimize the effectiveness of such attacks. And herein lies, perhaps, the strength of the British system: It is prepared for the worst that can happen, and it is based on the voluntary cooperation

THE AUTHOR: George Gretton is a British author, journalist and broadcaster on current affairs.

Prepared for the Worst

By **GEORGE GRETTON**

With the memory of the blitz still fresh, British citizens are being trained in methods of survival

of a very large number of ordinary people.

Planning of Civil Defense in Britain is done by a Joint Planning Staff, which was created in March 1943. Its chairman is appointed by the Home Secretary, but works in close liaison with the Armed Services, so that all sides of national defense can be co-ordinated. The Chief Scientific Adviser to the Home Office is responsible for seeing that the Joint Planning Staff receives all the technical information that it needs. It is his duty to supervise all necessary research for ascertaining the effects of air attack under contemporary conditions, for the design and production of protective equipment

and for the planning of defense measures of all kinds.

As the central or nuclear training institution, a Civil Defense Staff College was opened just over a year ago, and, there, comprehensive courses are given to officers and executives concerned with the direction of Civil Defense. In addition to these longer courses, which last five weeks, there are shorter, one-week courses, covering the same ground in a more general way, for senior officers of Government Departments, local government services, the police and the women's voluntary organizations.

From this central planning

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At the Civil Defense Staff College, Sunningdale, England, Commander Alvin Franks uses a 30-foot square contour map to show what would happen if an A-bomb burst near Southampton.

CAUSE AND CURE



These examples are from reports of actual accidents. They list the causes and the steps taken to prevent recurrence.



Out of Position

Laborer was injured when fellow worker was operating winch and pulley cable so tight it broke small pulley loose. Pulley struck victim on right shoulder, fracturing shoulder blade.

Correction: Pulleys and cables then in use were replaced by larger and stronger ones. Workers were instructed to stand in safe place to one side when pulley is being operated.

Crushed Finger

Cable guy being withdrawn from between tank roof sheet and top curb angle caught against drift pin being used as pry bar. Pin flew out crushing finger against gin-pole.



Correction: Workmen were instructed to remove cables, etc., before bolting tank sheets in position, and, whenever possible, to use a flange opener to pry sheets apart.



Hot Reception

Worker suffered severe burns to face, neck and right hand while refueling oil burning heater, when oil flashed as it contacted hot surface of heater.

Correction: Employees were warned to pay special attention to directions for an operation of this kind. The directions state that such a heater is not to be refilled while burning or while hot.



Wrecked by a Rock

Laborer fractured bone in left leg when he stepped off motor foundation to floor, a distance of 14 inches, and twisted his leg on a small rock.

Correction: Workers were cautioned to be certain of footing when stepping from one level to another. The important part good housekeeping plays in accident prevention was re-emphasized.



Wrong Couplings

Air hose fitted with oversize couplings came off pneumatic drill, and dust was blown in worker's eye as he attempted to shut off air supply.

Correction: A periodical check of air hoses is now made to see that they are fitted with correct couplings.

Nailed

A workman, engaged in cleaning up a shop, was picking up some odd boards when a nail in one of them cut a severe gash in his hand.



Correction: All employees were told either to remove or drive protruding nails in all material which they were discarding.

No Smoke from These Stacks

Gas washers and electrostatic precipitators in new boiler plant keep contaminants out of the air



Smokeless smokestacks at National Works of U. S. Steel's National Tube Company at McKeesport, Pa. A major step toward smoke control is the installation of two modern gas washers and a companion set-up of electrostatic precipitators for cleaning gas from the furnaces for use in the mills new high-pressure boiler plant. A second anti-smoke development is the installation of dust collectors that virtually eliminate fly ash from the boiler stacks when coal is used instead of blast furnace gas.

SMOKELESS STACKS on the new boiler plant of National Tube Company's National Works, McKeesport, Pa., are not a sign of slack business but of the cooperation with the regional smoke-control program. Designed to produce a minimum of fume and solids in waste gases, the new boilers are fired with gas from this U. S. Steel plant's four blast furnaces, with pulverized coal as an auxiliary fuel.

An average of 17,400,000 cubic feet of gas an hour is produced by the four blast furnaces. Of this amount, approximately 69 per cent, or 12,000,000 cubic feet is available for use in the new boiler house.

Gas cleaning is accomplished in two modern gas washers and two

electrostatic precipitators. A main 9 feet in diameter conducts the gas from the furnaces to the washers. Based on a capacity of 230,000 cubic feet of gas a minute, the washers reduce the dust content to 0.25 grains a cubic foot by passing the gas through multiple fine sprays of water.

From the washers the gas passes to two double-compartment precipitators. Here it flows through a high-tension electrical field, becoming part of the electrical circuit, with the result that the solids are precipitated through the action of electrostatic charges. The precipitators reduce the dust content of the gas to 0.01 grains a cubic foot.

The dust in the precipitators is washed away constantly and flows

by gravity to a 90-foot diameter multiple-trough thickener. The sludge effluent from the wet washers is pumped to this same thickener.

The settled solids from the thickener are pumped directly to a drum-type vacuum filter which can produce 172 tons of filter cake in 24 hours. This cake, with a moisture content of 25 per cent, is scraped from the drum and dropped directly into cars for removal to the ore stock pile for recovery by sintering.

Coal for the new unit is handled in the conventional manner. First lifted from barges by a coal tower, it passes through a crusher to a storage hopper, then is fed by means of seven rotary-vane feeders, with a capacity of 150 tons an hour, to a belt conveyor for discharge into a bucket elevator.

From the elevator the coal discharges to a belt conveyor equipped with a tripper and mounted over the boiler house coal bunkers. Removal of tramp iron is accomplished by two magnetic pulleys on the conveyor.

From the boiler house bunkers, the coal passes down through spouts to automatic scales, thence to the feeders and on to the pulverizers. Each boiler is equipped with its own scale, feeder, and pulverizer.

Gases and fly ash emanating from coal are controlled by dust collectors designed to meet the requirements of the new Allegheny County (Pittsburgh and environs) Smoke Control Ordinance. The ash-handling system is of the conventional vacuum type with a capacity of 20 tons an hour. It collects from ash hoppers, boiler soot hoppers, dust collector hoppers, and stack hoppers, and delivers into a 100-ton capacity silo through a cyclone and air washer. Ashes from the silo are discharged into either trucks or cars by a dustless unloader.

Because of availability and past satisfactory performance, tangentially fired units were selected. The boilers are equipped with two-sec-

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The SAFETY VALVE

Said Justice Oliver Wendell Holmes (1913): *We need education in the obvious more than investigation of the obscure.*

Indestructible

NOW THAT the copyright on Sir Arthur Sullivan's tuneful gems has expired, anybody can use them—even for such base purposes as singing commercials. Gilbert and Sullivan fans are shocked at the thought and fear the music will die of overwork.

I don't think there is any cause for worry. *The Mikado*, *Pinafore*, and *The Pirates of Penzance* have survived years of mayhem by amateur performers and overwork on the radio.

I have heard some awful renderings of these operettas but I'll still go to a high school performance any time. Last time I went to one I thought the orchestra would fall apart before it finished the overture. But the cast got better as the show progressed, and in such groups there is usually enough budding talent to keep it from being a total flop. The youngster who played Koko had the real D'Oyly Carte manner.

William Schwenk Gilbert's impudent lyrics, with their gibes at official dignity, have lost none of their appeal in seventy years. And the incongruous combination of nonsensical words and patter with the mock majesty of the music is irresistible.

Sullivan received a knighthood from Queen Victoria but the good queen was not amused at Gilbert's irreverent verse. He had to wait for his honors until the broader minded Edward VII became king.

Sullivan also composed some noble sacred music. *Printer's Ink* hopes that nobody will commit the sacrilege of using *Onward Christian Soldiers* for a singing commercial.

That is something that shouldn't happen to *The Lost Chord*.

Austerity

THOSE WHO FIND running a plant cafeteria in this favored land a chronic headache, should think of what it's like in Britain. Over there, meat is a flavoring rather than a substantial source of protein in the diet.

With strict rationing in force, the plant canteen must use a lot of ingenuity to stretch its meat allowance. Suggestions for menus and management are presented in *Industrial Welfare* (London) for January-February, 1951.

The plant can serve meat two, three or four times a week, depending on the category of the plant and its meat allowance. Gaps in the menu are filled in with fish, poultry, game, eggs, cheese, offal and tinned goods, but some of these are none too plentiful. Or the plant can use its allowance for dishes in which the meat portion is chiefly background. Cottage pie, shepherd's pie, rissoles, curries, hot-pot and other euphemisms for hash and stew are common in canteen menus. The article contains recipe suggestions for making these dishes tempting to the eye as well as to the palate.

That, my well-nourished friends, is austerity.

Thoughts on a Young Granddaughter

A NEW BABY in the family gets you to thinking about a lot of things. Of course, it reminds grandpa of the passing years but it's satisfaction to see one's self projected into the third generation. And it's a real joy to watch a lovable little bundle develop into a person.

I could wish that Kathryn Ann had been born in a more secure and comfortable world than the

present one, but I wouldn't change it for any previous age.

While we were waiting for news from the hospital I was grateful for modern pre-natal care and obstetrical techniques. And when I see mother and grandmother preparing the formula and sterilizing bottles with laboratory care, I think of the days of the pap rag and pacifier, and the hot, fly-infested summer months which were one continuous bellyache for baby.

I remember, too, little slabs of white marble in the cemetery back home marking the heart-breaking toll of child mortality in the last century.

I'm glad that we have also made progress in understanding the human mind, that training and character development have more wholesome incentives than the fear of future punishment.

Not even the totalitarian cloud on the horizon makes me want to turn the clock back.

In This Issue . . .

WHEN MANAGEMENT began to apply the principles of mass production to human relations the result wasn't what was expected. Human beings were perplexingly different and streamlined methods and pat formulas didn't work. The key to the human relations problems is the individual worker, says E. B. McConnell, whose influence has been strongly felt in shaping the personnel and safety policies of Standard Oil Company of Ohio. (Page 18.)

Imagine an oil tanker longer than two football fields, with its tanks filled with flammable liquid. No doubt about it, here is a real problem of fire protection. J. Howard Meyers, who is well known in the accident prevention and fire prevention fields, describes the measures taken to safeguard the world's largest tanker. (Page 22.)

Carman Fish



There is no royal road to safety or health. No one can make mystic passes over a crystal ball and remove the curses of illness and injury. It takes real planning, live interest, cooperation and work by the medical and safety departments

The Safety-Health Team

By C. F. SHOOK, M.D.

WITH THE overhanging clouds of war and uncertainty we have never before needed the wholehearted cooperation of so many. Without teamwork, you cannot get anything accomplished. In industry the teamwork must exist between management and labor, and among individuals within the plant.

In any health and safety program we must have teamwork between the safety engineer and the representatives of our profession—the physician and his right hand, the industrial nurse. A perfect score is impossible without all three components functioning as a

whole, something like a football team. You can't all be quarterbacks, but you can take turns carrying the ball toward the goal of safety and health.

I have been an Army medical man most of my life. You might say I am still an Army man, for I am subject to call in any great emergency. The military medical profession has a stupendous job in time of war. It must not only care for the sick and wounded, but must also aid in maintaining an effective force in the field ready for action. We in industrial medicine have a like project, for we are judged, especially in time of emergency, by the percentage of production personnel we can keep on the job.

During World War II the national absentee rate for industry varied from 5 to 7 per cent, depending a great deal upon the war pressure on that particular industry. Today the rate runs 2 to 3 per cent. If one were to analyze these figures carefully he might find that the heaviest absenteeism

was in the plants where a good health and safety program did not exist. Naturally, the more accidents the more absence from the job. The less attention to health, hygiene, and sanitation, the more sickness on and off the job. I do not believe that you will find that the absentee rate rose materially in plants where a medical service existed in deed and not just on paper.

I am sorry to say that there are a number of plants today which are laboring under the false impression that they are utilizing their medical service completely and satisfactorily. Some plants have a medical setup in name only. They are operating glorified first-aid rooms, ready to handle all emergencies that may arise, but wasting many of the professional qualifications of the nurse who is in attendance.

A good industrial nurse who is permitted to keep up with her education and who is permitted an audience with her supervisor for the advancement of new health

THE AUTHOR: Dr. C. F. Shook is Medical Director of Owens-Illinois Glass Company, Toledo, Ohio, and Medical Advisor to the Industrial Nursing Section, National Safety Council. This article has been adapted from a paper presented before the East Bay Regional Division, Industrial Nursing Section, California State Nurses' Association.

and safety ideas is fortunate. You will note that I said "supervisor." That means the physician in professional matters and the personnel director or other representative of management for administration.

Do I mean that the industrial nurse should be sent back to school to gain this education? Not necessarily, although I do think it would be a wonderful thing if more industrial nurses were sent by industry to schools of public health and industrial nursing. However, much can be accomplished by other means. Every industrial nurse should be allowed to attend at least every other annual state meeting of the industrial nurses and as many local meetings as possible.

As special rewards, nurses with greater service and interest should be sent to national meetings such as the National Safety Council's Annual Congress in October, or the meeting of the American Association of Industrial Nurses in the spring. These meetings aid the nurses in procuring better ideas on health and safety, new approaches to the employee and his problems and, best of all, the chance to contact others who are

thinking along similar lines. Management will find itself well repaid if it would encourage these nurses to get the information first hand. Most nurses want to do this. They should not have to go on their own time or at their own expense. It is an investment that will pay dividends.

Now, let us take the other point—the chance to open the door and talk over problems and ideas with her supervisor. I know how busy personnel people are and how upsetting distractions can be. But, if you are not utilizing your professional people to the utmost, you are missing a bet. Both the doctor and nurse can do a grand job for you and your people if you will recognize them and let them do what their training qualifies them to do.

In the January issue of the *A.A.I.N. Newsletter*, President Mary Delehanty, R.N., says, "The medical department has moved steadily inward from its no-man's-land place of the past. But too often the change has been only physical. In plant organization they remain somewhat apart. Too often medical personnel do not have a direct line of authority to

an executive with power to act. Too often they are omitted from the councils where employment and similar policies are established and safety measures are discussed. Yet these things relate directly to the work done within clinic walls. Too often the needs of the medical department in program expansion and other complexities do not reach the officer with the power of decision."

Who can assist the people in health and safety better than the professional people who know the effects of neglecting these two subjects? They have more first hand, unadulterated knowledge of an accident than anyone else. They see many similar accidents and can put two and two together to develop a practical suggestion.

You remember that old adage, "Where there is a will there is a way." Let's reverse that and say, "Where there is a way there is a will." If industry will aid the nurse by providing the way, she has the will and the ability to carry on from there.

It is my understanding that the great majority of industrial plants have one-nurse service. I am convinced that the one-nurse plant is the ideal setup for a maximum health program. Sounds screwy, I know, and there are exceptions, but here is my line of reasoning.

First of all, let's eliminate the large plants where nursing service exists around-the-clock and a full time safety director works with the medical service toward that safety goal. The utopia cannot be reached for many reasons. The plant is too large. Distances from the dispensary are too great. Every phase of personnel relations is covered by trained personnel people, counselors, psychologists and the like. Also, the employee of the larger plants can never feel as close to his medical service nor can they learn his peculiarities and health needs because of this size.

Our nurses here, as a rule, become integral parts of machines. Now you see why I say it is the ex-

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This trophy, with engraved plates, is usable for seven years. It then becomes the property of the plant winning it the most times.

FOURTEEN YEARS ago our company embarked on a program which took us farther, and in more directions, than our management dreamed of when it started out. Like so many companies, we got started when we got into serious trouble. In one of our quarries we had an explosion which killed several men.

The management of the Funkhouser Company, never lacking in concern for its employees, realized that a special effort would have to be made, safetywise, and immediately started the ball rolling.

The company operates three granule plants, two in Pennsylvania and one in Georgia. We are a small operation in comparison with others in the industry, having operated slightly less than three-quarters of a million man-hours in 1950. Our business is slate and stone surfacing for roofings, which we mill and refine. In Pennsylvania we have a stope and pillar mine and three quarries. The Pennsylvania plants are self-insured. In Georgia we operate a mine and mill which is covered by an insurance carrier.

First steps in our safety pro-

The Safety Program Kept on Rolling

A disaster gave it the initial push and the results supplied continuing momentum

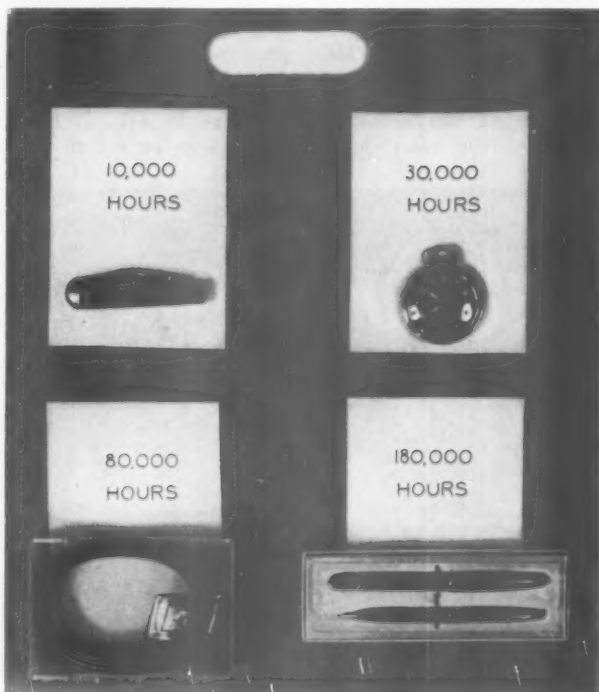
By HOWARD F. JOHNSTON

gram were the holding of occasional safety meetings between plant managers and foremen, and the filing of a few injury reports. Because it was self-insured, the company was able to size up its results in very definite dollar and cents totals. Even in the early stages, it became obvious that safety was an excellent investment, and, furthermore, that to make it more effective we would have to

educate our men in safe practices and sell them on the idea of safety. I was named for this job, and was given a free hand in producing a more workable program.

Our first step was to educate me in safety, and to do the same for our chief engineer. The two of us attended a 20-hour course in safety training sponsored by the Federal Government during the last war,

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These useful awards are made to departmental foremen and safety committeemen in recognition of safe operation in their department for periods shown above.

THE AUTHOR: Howard F. Johnston is Safety Director, the Funkhouser Company, Hagerstown, Maryland.

Inspection and Maintenance of Power Presses

(Revision)

Published by National Safety Council
425 North Michigan Avenue, Chicago 11

1. This data sheet deals with power press inspection and maintenance. It is intended to be used as a guide by maintenance departments. Since there are many different kinds of power presses, only common sources of trouble can be indicated.

2. In a recent analysis* of 590 power press accidents involving some degree of permanent injury, 99 resulted from press deficiencies. Of this number, 41 were due to defective clutches. The analysis also showed that 86 injuries resulted from defective power-press guards or tripping devices. From these data it is evident that a guarding program cannot succeed without good inspection and maintenance of both press and guarding devices.

3. Inspection and repair of power presses should be done by competent men, properly trained and thoroughly familiar with power press construction and operation. The area around the press being worked upon should be cleared of all persons not directly concerned with the maintenance work.

4. The maintenance man, or crew, should be supplied with standard equipment, and tools should be provided in all sizes required for maintenance work, so

*National Analysis of Punch Press Experience is a continuous study being carried on by the Statistical Committee of the Power Press and Forging Section Executive Committee.

This Data Sheet is one of a series published by National Safety Council. It is a compilation of experience from many sources. It should not be assumed that it includes every acceptable procedure in its field. It must not be confused with American Standard Safety codes; federal laws; insurance requirements; state laws, rules and regulations, and municipal ordinances. Reprints of Data Sheets are available from the National Safety Council.

there will be no need to improvise.

5. Ram blocks should be provided and used as an alternative to lowering the ram or removing the die. The judgment of the maintenance man should determine which method should be used.

6. Power presses, like all types of machinery, are subject to wear and breakage. Therefore, to prevent costly accidents and repairs and to promote maximum continuity of production, it is essential that they be inspected periodically.

7. In general, a press should be inspected at intervals determined by the amount and type of service and by the type of press, on the average, from two to six times a year.

Frame

8. The press frame should be inspected for cracks and broken

pieces. Bearing brackets, mounting brackets, and knockout brackets should be examined for loose bolts and nuts.

9. The tie rod and nuts should be checked for fractures or stretching. Since the tie rod nuts on the top of the press may fall if the tie rod fractures, it is advisable to chain these nuts to the press frame. A steel strap under each bottom tie rod nut will prevent the rod from dropping should it fail.

10. If a machine is bolted to a foundation or grouted, hold-down bolts should be checked for looseness and fractures.

Bearings

11. Crankshaft bearings should be checked for snug fit, rotation (which would indicate a sheared bearing pin), loose bearing caps and nuts. The slide bearing gib surfaces should be examined for dirty or clogged lubricant grooves, loose hold-down and adjusting bolts, and loose lock nuts.

12. Antifriction bearings should be checked for lubrication. Overlubrication will cause overexpansion of the oil seals and overheating of the shaft. This may result in binding and failure of the shaft which might cause the ram to fall without warning.

Motor or Power Source and Drive

13. On modern presses, the motor mount is usually hinged so

that the belts can be tightened. The hinge pins on this mount should be in place, and the adjustable mounting and the motor mounting screws should be tight.

14. Belts should be properly adjusted. If they are loose, there is excess slippage; if too tight, there is excess load on the bearings.

15. Gears and shafts should be checked for bad keyways, broken teeth, and worn bearings.

16. The motor control should be locked out while the press is under repair.

17. If the press is belt driven, the belt should be removed or the belt shifter locked out so that the press cannot be operated while work is being done on it.

18. A die setter's safety bar, like that shown in Figure 1, should be provided and its use made mandatory for turning the flywheel when the power is off. Many fatalities and serious injuries have resulted when the power was turned on after an ordinary bar had been used for this purpose and unintentionally left in the shaft.

Ram or Slide

19. The ram gib bolts should be tight, and the ram should be checked for cracks. The ram adjustment screws should be locked except when the ram is being adjusted. If the ram is counterbalanced by springs, they should be checked for breaks, and the rods and brackets should be tight.

20. Knockout bars should be pinned or chained to prevent their falling out and to guard pinch points.

21. On a machine with a motorized ram adjustment, the motor should be checked for loose mounting bolts, loose drive chain or gears, excessive grease in the motor, and worn or frayed flexible electrical lead-in wires for motor control.

22. If the ram is counterbal-

POWER PRESS INSPECTION	
Inspect regularly for safe operation:	
BRAKE	SAFEGUARDS
lining _____	springs _____
band _____	steps _____
spring _____	catches _____
stud bolt _____	locks _____
FRACTURES	POWER CONTROL
crank shaft _____	belt shifter _____
piston screw _____	lock _____
tie rods _____	electric motor _____
	control _____
CLUTCH	LUBRICATION
springs _____	all moving _____
pins _____	parts _____
dogs _____	excess _____
pedal spring _____	grease _____
tension _____	
Check parts found O.K. Indicate on other side repairs made and repairs needed.	
Date, sign and turn in this card.	
Press No. _____ Dept. No. _____ Date _____	
Signed _____	
SAFETY INSTRUCTION CARD No. 506	
National Safety Council PRINTED IN U. S. A.	

Figure 1. Check list for inspection.

anced by air, a check should be made for air leaks, air line restrictions, correct operating pressure, loose piston rods, and proper lubrication.

Guards

23. Of 86 injuries caused by defective guarding or tripping devices, mentioned in paragraph 2, 22 involved sweep guards, 21 involved two-hand tripping mechanisms, 17 involved pull-back guards and 11 involved gate guards.

24. All guards on a power press must be in place, undamaged and in proper adjustment before the press is released for production.

25. Many guards are synchronized with the action of the press. Most of these will get out of adjustment through wear and vibration and require periodic checking. A guard in need of repair or

adjustment is worse than no guard at all because it gives the operator a false sense of security.

26. Whenever steel cables, leather straps or steel springs are used as parts of guards, they will in time need replacing due to wear. In such cases nothing except the proper replacement parts should be used. "Substitutes" may fail, stretch or otherwise get out of adjustment. The manufacturer's recommendations for maintenance and adjustment should be followed, and his replacement parts should always be used.

Fatigue Cracks

27. Crankshaft and ram adjusting screws, which are more subject to fatigue than are other parts of the press, should be examined for fatigue cracks. They can be checked magnetically, by means of sound waves, or by the oil and chalk method.

28. Whenever a flywheel shaft, clutch shaft, or other shaft is removed from the press, it should be inspected for fatigue cracks. Some companies inspect all shafts once a year for cracks and for bending or deformation from overloading or mishandling.

Lubrication

29. Press lubrication is important because lack of it can cause parts to break or to bind with accidents as the result. Overlubrication, especially of brake and clutch surfaces, should be avoided. Oil on friction surfaces will reduce effectiveness, and excessive oil in mechanical clutches, operating pockets or slots will prevent proper action. Excess lubrication should be wiped off and faulty lubrication seals replaced.

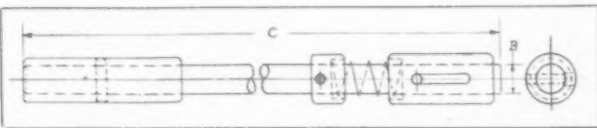


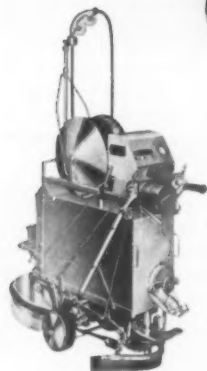
Figure 2. Die setter's safety bar used in turning crankshaft on punch presses. Spring prevents bar from being left in shaft. (Courtesy Western Electric Co.)

NEW SCRUBBER-VAC *Cuts Cleaning Time $\frac{2}{3}$*

FOR SMALL-AREA FACTORIES



- Specially designed for buildings with 2,000 to 15,000 sq. ft. of floor space
- Applies the cleanser, scrubs, rinses, and picks up in ONE operation
- Also handles the dry work — steel-wooling, polishing, et cetera
- Can be leased or purchased (leasing budgets cleaning expense)



Now the labor-saving advantages of combination-machine-scrubbing are available to small as well as larger factories. The new 418P Finnell Scrubber-Vac, for small-area buildings with 2,000 to 15,000 sq. ft. of floor space, cleans floors in approximately one-third the time required with a conventional 15 or 18-inch scrubber-polisher using separate equipment for picking up. A Finnell Scrubber-Vac speeds cleaning by handling four operations in one! It applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor) — all in a single operation.

Of narrow design, the new 418P Scrubber-Vac also meets the need in larger factories for a combination machine that can be used in congested areas and narrow aisles. And all the refinements of Finnell's larger combination machines are embodied in this smaller unit (18-inch brush ring). Has new type of water valve that assures uniform flow of water . . . powerful vacuum for efficient pickup (performs quietly) . . . a Finnell-developed trouble-free clutch . . . self-winding cable reel . . . improved waterproof wiring and minimum electrical connections, simplifying the cleaning of the machine . . . G. E. Motors and Timken Bearings. The machine is self-propelled—operator merely guides it. Supplied with or without powder dispenser. Incidentally, it's good to know that when you choose Finnell Equipment, a Finnell man is readily available to help train your maintenance operators in its proper use.

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FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES
IN ALL
PRINCIPAL
CITIES

Clutches and Brakes

30. *Air friction clutches.* The usual air clutch and brake units can be roughly divided into two types. The first has separate air clutch and air brake units, and the second has an air-operated clutch and spring-operated brake.

31. In general, it is advisable to inspect air clutch and brake units semiannually or quarterly or when clutch bearings are lubricated. Frequency will depend on the amount and severity of the service.

32. The unit should be checked for loose bolts and nuts, broken parts, lubrication leaks, air leaks, faulty or loose wiring, excessive accumulation of particles on the friction lining, and broken springs.

33. During inspection, the action of the clutch and brake, both at rest and in motion, should be checked. Travel on the friction disks will indicate the amount of wear, and the disks should be adjusted in accordance with the manufacturer's instructions.

34. It is also important that the brake be adjusted to stop the press on top center or just before top center. The clutch and brake should operate smoothly and engage and disengage quickly. There should be little or no coasting on the press ram when the brake engages. On units with separate brakes, the brake and clutch must not engage simultaneously.

35. Sliding surfaces that keep parts in alignment should be checked for excessive wear that might allow the parts to cock or wedge.

36. *Packings.* Inspection of the clutch and brake units will readily disclose leaks in air cylinder packings and in air glands. Air line strainers, lubricators, and moisture traps will increase the life of these packings. Traps and strainers should be checked frequently and foreign matter removed.

37. *Air valves* are usually the solenoid operated type and may be either direct acting or pilot

operated. Air valves should operate smoothly without sticking and should not leak. Hammering of solenoid magnet field surfaces may sometimes cause solenoids to stick. Valves may stick because of dirt or scale from the air line. Here again air-line strainers are a help. A leaky valve packing should be replaced.

38. *Electrical controls*, although usually not part of the clutch and brake unit, affect the operation of the unit. Push buttons, limit switches, relays, and contactors should be inspected for excessive wear, broken springs, loose parts, loose or broken wires, peened magnet field surfaces, badly burned contacts, poor contacts, and dirt. Redressing of contact points is only temporary; faulty contacts should be replaced.

39. *Positive clutch and brake and control.* A positive clutch is one which, when tripped, cannot be disengaged until it has completed its cycle. It is known by many names, such as pin, jaw, dog, pulley, key, spline, etc., depending on the type and the manufacturer. Usually associated with this type of clutch is a band brake which applies a continuous braking force to the crankshaft.

40. The press clutch and brake should be inspected at intervals which will vary with the conditions in each plant, usually from four to six times a year.

41. *Clutch.* The clutch should be examined for loose parts, worn pins, worn dogs, broken or weak springs, damaged lubrication seals, and excessive wear in the bearings. Worn or broken parts should be replaced and the clutch adjusted to throw out at the top or just before the top center stroke. This adjustment will affect the brake setting.

42. If the clutch has a non-repeat device, this device should be thoroughly examined for broken or loose parts and checked for proper operation.

43. *Clutch control.* On many older presses, the clutch was tripped by a foot or hand lever

with spring return. This method may still be in use, but there is now a greater variety of methods of tripping the clutch, from all-electric (using push button and solenoid) to all-air (using valves and air cylinder). Also, some clutch trips use a combination of air and electricity.

44. All the elements of the clutch trip should be examined. Sources of trouble include broken or weak springs, worn pins and bushings, loose nuts and bolts, leaking air packings, connections, or valves, loose or broken wires, poor electrical contacts, defective relays and limit switches. After worn or broken parts have been replaced, the tripping setup should be readjusted and checked for smooth operation without binding.

45. *Brake.* The continuous band brake is used on a large majority of presses. If the brake is not set or operating properly, the press may repeat and cause a serious accident. Therefore, worn, glazed, or oil soaked brake linings should be replaced.

46. Copper rivets should be used and should not project above the lining. Worn bolts, studs, springs, and others parts should be replaced. When adjusted properly, the brake should stop the press either on top center or just before top center.

47. *Pneumatic die cushions and springs.* Pressure pads and die cushions should be examined for material between the pressure pad and the bolster. A check should also be made for faulty air packings, air leaks, improper lubrication, and loose nuts or screws on the supporting rods or plates.

ACKNOWLEDGMENT

This data sheet was revised by Norman Dunlap, Minster Machine Company, and G. F. Theriault, Frigidaire Division of General Motors Corp., both of whom are members of the Power Press and Forging Section's Engineering and Technical Publications Committee. The final draft was completed under the supervision of Arthur S. Kelly, staff representative, Power Press and Forging Section, and approved by the Council's Industrial Conference.

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fidantes of plant nurses... instruct employee groups in first-aid methods and other vital subjects... confer with management officials in developing plant medical units....

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humanitarian services—all the way from accident prevention to prompt and equitable claim settlement—this Industrial Nursing Service benefits employers by effecting savings in premium costs. To employees and their families, it symbolizes the employer's sincere concern for them as *persons*!

Employers Mutuals write: Workmen's Compensation—Public Liability—Automobile—Group Health and Accident—Burglary—Plate Glass—Fidelity Bonds—and Other Casualty Insurance, Fire—Extended Coverage—Inland Marine—and allied lines. All policies are nonassessable.



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Guarded Shear Cutters



Added protection for operators of shear-type cutter is provided in this installation. At the front of the cutter (top) a lengthened table keeps the operator's hands from coming in contact with the guard. At the back, the metal box encloses measuring adjustments and cutter blade. When lid is raised, current is automatically shut off.

OPERATION of shear-type cutters in the Tenite Division of Tennessee Eastman Corporation, Kingsport, Tenn., used to be a serious problem. Several accidents involving loss of fingers or finger tips occurred, and investigation indicated that lack of a suitable guard on the back of the cutting blade was responsible.

In cutting large slabs of material, two men are frequently needed. One man at the front of the cutter places the material in position and operates the machine.

The other operator stands in the rear of the cutter and returns the material to the man in front of the machine.

The man doing the actual operating is protected by a guard which is lowered to prevent his hand from getting too close to the cutter. The man at the rear of the cutter, however, is protected only by his own alertness.

The cutter measurement adjustments are located at the back of the machine close to the cutting blade. This part of the machine is

unprotected. In such a set-up, there is always danger of someone attempting to use the cutters without knowing that another is at the back of the machine setting up his own cutting adjustments. To avoid this hazard the safety features shown in the accompanying illustrations were designed.

The front operator is now further protected by the lengthened tables which prevent his hand coming in contact with the cutter guard.

At the back of the machine a metal box-like structure has been built. This structure encloses the measuring adjustments and cutter blade and is suspended over the cutter receptacle. The lid is connected directly to the cutter disconnect switch. When this lid is raised, the cutter is automatically turned off by physically disconnecting the electrical circuit and cannot be turned on until the lid is lowered.

Raising this lid is the only means of access to the measuring device and this feature protects the operator while he is making adjustments. The lid must be raised and kept raised until the adjustments are made.

The extension of this structure over the cutter receptacle prevents any person getting his hand close to the cutting blade while the machine is in operation.

Safe Worker and Safe Foreman

Bob Owen, labor foreman in Continental Oil Company's refinery at Wichita Falls, Tex., is a walking safety "institution." Not only has he steered clear of accidents involving himself for an even quarter of a century, but he has kept the men working in his group on a safe status.

When recently awarded a 25-year pin for working as many years without a disabling injury, it was disclosed that he has been in direct charge of a group of men for more than 18 years and none of these men under his supervision has ever suffered a lost-time injury.



DANGER



...proceed at your own risk

What's wrong with this picture?

It looks like the last word in modern decor. But have you noticed the floor? It's an invitation to trouble.

Faulty maintenance methods have given it a dangerously slippery surface. It will be a miracle if one or more persons do not take nasty spills—with the resultant headache of law suits for heavy damages.

The Legge System of Safety Floor Maintenance puts an end to such needless hazards. Legge Safety Floor Cleaners and Polishes impart a clean, lustrous, slip-resistant shine to the floors of plants, buildings and institutions . . . a resilient, long-lasting gloss that resists skids, yet is inexpensive to maintain.

Legge operates on the principle of not just selling you a product in a can. First Legge Safety Engineers conduct an on-the-spot analysis of your floors. On the basis of condition and traffic burden, they recommend the *correct* maintenance program custom-tailored to your needs. This service is provided *without extra cost*.

At worst, old-fashioned maintenance methods expose you to the risk of negligence suits. At best, they subject you to serious floor repairs long before such expense is warranted.

For your own peace of mind, investigate the Legge System. Simply clip the coupon to your letterhead and mail today for a revealing booklet on scientific floor care. It's free, without obligation, of course. Now, please? WALTER G. LEGGE COMPANY, INC., New York 17, N. Y. Branch offices in principal cities.

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Please send me a free, no-obligation copy of your Mr. Higby book.	
Signed _____	
Title _____	
Types of flooring _____	
Area _____ sq. ft.	N-4

See us at Booth No. 61 during the Greater New York Safety Convention, Hotel Statler, N. Y., April 3-6.

Want References?

Users of the Legge System read like a Who's Who in plant, institution and building management. Recommended by foremost casualty insurance companies. Products listed by Underwriters' Laboratories as anti-slip material.

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LEGGE
TO STAND ON

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of Safety Floor
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Goodyear Plants in World-Wide Safety Contest



Vice-President Russell De Young presents the Slusser Memorial Trophy to Lee Young, division foreman of tubes and accessories, for the outstanding safety record in the Goodyear world-wide contest. Chairman of the Board P. W. Litchfield watches the presentation.



Presentation of Slusser Memorial Safety Trophy and other awards in the Goodyear Theater. Above, Safety Director Jack Kidney is presenting safety suggestion awards. Prominent in the background is National Safety Council's Award of Honor for Distinguished Service to Safety.

For having worked 1,350,000 man-hours in 1950 without a disabling injury, the Tubes and Accessories Division at The Goodyear Tire & Rubber Company's Plant 1 in Akron has been awarded the Slusser Memorial Safety Trophy.

The award is made annually to the division having the best record for safety in Goodyear world-wide plants.

Also having a perfect record, but only 160,000 man-hours worked, was the Pathfinder Plant at Niagara Falls, N. Y., which finished in second place. Goodyear-Sweden was third with two disabling injuries and a severity-

times-frequency rate of 0.014.

Commenting on the 1950 safety record, Jack Kidney, Goodyear safety director said, "The entire over-all picture was so much better last year that we think we might be able to achieve that which has heretofore been considered impossible — all departments and divisions working entirely accident free."

Other divisions finishing high up in the final standings, with severity-frequency rates, included: England, .020; Reclaim, Akron, .067; Brazil, .179; Bowmanville, Ontario, .184; Aircraft, .241; Plant 2 Production Service, .283; and St. Hyacinthe, Quebec, .289.

The trophy was presented February 5 in Goodyear Theatre by Vice-President Russell DeYoung to Lee Young, division foreman, as scores of Goodyear employees and top officials witnessed the ceremony.

In addition, the four top safety suggestion winners for 1950 were announced and rewarded for their ideas.

Goodyear-Sweden also received the Hinshaw award for the best safety record of any Goodyear foreign plant.

Employees of the Plant 1 division which took top honors were treated throughout the day in their respective departments. Cake and coffee were served and chrome-plated fountain pens were presented to them.

Noise Abatement Week April 15-21

The 12th annual observance of National Noise Abatement week will be held April 15-21. The week is the highlight of the year-around nation-wide campaign by the National Noise Abatement Council to reduce unnecessary din in streets, factories, homes and offices.

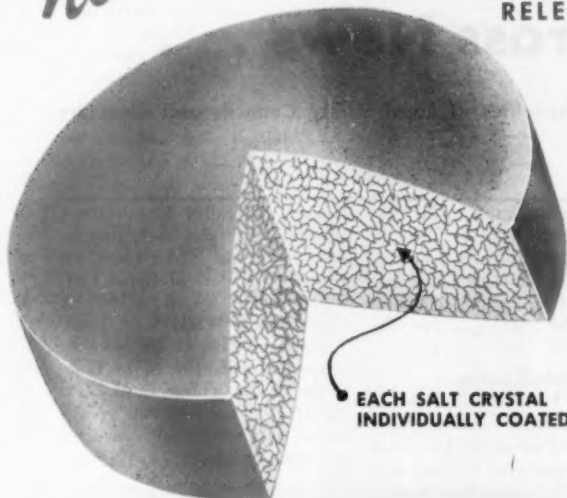
Many cities and towns have anti-noise ordinances, and more than a score of large and small cities throughout the nation conduct year-long educational campaigns against noise and compete for the Council's achievement awards.

According to George W. Handy, of Buffalo, president of the Council, efforts this year will be directed toward improvement in the health and morale of production workers in the nation's rearmament efforts by stressing the harmful effects of loud and unnecessary noises, particularly in plants and offices.

City and town governments, chambers of commerce and other civic organizations may enter their town in observance of Noise Abatement week to compete for achievement awards. Literature and entry blanks may be obtained from the National Noise Abatement Council, 9 Rockefeller Plaza, New York.

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Write for literature and prices

THE PACKAGE IS THE DISPENSER

"PEP-UP" Impregnated Salt Tablets come to you in sanitary, factory-sealed dispensers at no extra cost. **THROW AWAY DISPENSER WHEN EMPTY. HANG UP A NEW ONE.** Save the expense of purchasing, servicing and replacing individual dispensers.

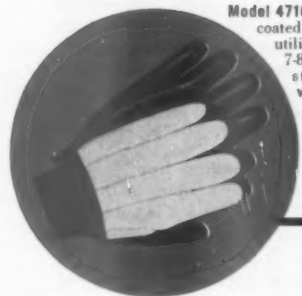


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Maintaining shipping schedules is always a problem for industry, both in the shipping itself, as well as in production delays that affect shipping. To help lick this ever-present problem see that your employees wear Hood Industrial Work Gloves! Then you can rest assured of more production through more protection for *vital* hands.

And remember, every Hood glove is performance-proven by actual "on the job" testing in every type of industry.

Two styles of these more economical gloves are shown here... just two of a complete range of gloves for more protection, longer wear, in all industries!

"Put your employee's hands into a safer glove"

Write today for the colorful new catalog showing the entire Hood line.

HOOD

for NEW Safety *PLUS*



HOOD RUBBER CO. Watertown, Mass.



Green Cross News . . .

Activities of Local Safety Councils and Chapters

Compiled by **TOM A. BURKE**

Director of Local Safety Programs, Field Organization, NSC

Twin Cities School

A six-session Foreman's Safety School for industrial supervisors, superintendents, and personnel directors was sponsored recently by the Twin Cities Area Safety Council in Benton Harbor and St. Joseph, Mich. The weekly sessions, each two-and-a-half hours in length, started on November 30 and ended January 18. Subjects included "Human Factors in Safety," guards, safe welding, industrial housekeeping, off-the-job safety, and a special fire session featuring demonstrations. Manager Gerald W. Shipman of the council reports an attendance of more than 50 at each session, representing 23 industries.

Off-the-job Program

Local council and chapter managers will be interested to learn that the off-the-job committee of the Industrial Conference, NSC, is urging special emphasis on away-from-work casualties throughout 1951 and wants the subject discussed at all regular and local safety conferences, public meetings, etc. Chairman D. E. Mumford, superintendent of safety for the New York Central System and a member of the NSC Board, is directing the training of a group of capable speakers on the off-the-job theme. Their services will be made available to any of the local safety councils or for regional or local conferences.

Management Forum

The Affiliated Foremen's Clubs of the Battle Creek area emphasized safety at the 2nd annual Battle Creek Area Management Forum held at Kellogg Auditorium, Battle Creek, February 17. Harold F. Lillie, director of the Lansing Safety Council, led the

safety discussions, talking on "Cooperation is the Keynote." Several hundred plant foremen, superintendents, and managers attended. Problems of production and salesmanship also came up for discussion.

Transit Safety

Several hundred supervisors, safety committee members, and other employees of the Cleveland Transit System were honored at a banquet at the Carter Hotel in that city on January 25, for the completion of a successful long range safety program and contest which closed December 31. A new competition for 1951 was launched at the dinner. A special citation of merit from the National Safety Council was presented to Donald C. Hyde, general manager of the Transit System, by Tom A. Burke of NSC Field Organization, in recognition of the company's efforts and achievements in safety through the years.

M-K-T Wives for Safety

Under the leadership of B. A. McDonald, superintendent of Rules and Safety for the Missouri-Kansas-Texas Railroad, the wives of the company's employees in six terminals have organized an "M-K-T Ladies Safety Council." According to Mr. McDonald, it is planned to organize similar groups in towns and cities all along the railroad line. Emphasis is being placed on home and child safety. The plan will be watched with interest for it is a new avenue for effective community safety effort. The NSC Field Organization is assisting in the basic planning.

Denton in Service

Irving L. Denton, manager of the Fort Wayne Safety Council, Fort Wayne Chamber of Com-

merce, was called into military service in February to become an officer of the U. S. Air Force. He reported for duty at Rapid City, S. D. Denton served in the Air Corps during World War II and was a reserve officer. He has been a member of the Procedures Committee of the Conference of Local Safety Organizations and is well known in Chamber of Commerce and Safety fields.

Pictures Pay

"Green Is for Go" is the title of an attractive annual report recently distributed by the Western Pennsylvania Safety Council. Manager Harry Brainard has changed the pace most effectively in this report through the use of 20 strong photographic illustrations, each telling the story of some activity or program sponsored by the council during the past year. The booklet is an excellent sales piece for the council, as well as an interesting report of activities and accomplishments.

Concise Report

The annual report of the Middletown (O.) Safety Council exemplifies conciseness—a lot of action packed into a few words. It is a small four-page pamphlet consisting of a pertinent first-page cartoon followed by a two-page outline of the work and achievements of the council during the past year. The fourth page is a brief appeal for council support. With a few minutes reading one gets a pretty good picture of safety at work in Middletown.

"Branding Iron"

The Denver Chapter of the National Safety Council is publishing a monthly newsletter called the Green Cross Branding Iron. The first issue appeared in January and

was full of interesting news of chapter activities. The smart looking masthead of the new publication was drawn by Artist Chet Klock of the Capital Features Syndicate. Manager Brandon Marshall of the chapter is the editor.

Swenson Honored

Elmer Swenson, energetic manager of the Sioux City (Ia.) Safety Council, has just been named Sioux City's "Young Man of 1950" by the Junior Chamber of Commerce. The award was bestowed for "outstanding civic, church, safety and service club leadership." In the formal presentation at the annual Jaycee banquet, Swenson was described as "a citizen of sparkling ability." The selection committee was headed by Mayor Dan J. Conley.

Heads Western Conference

H. F. Kretchman, editor of the *Salt Lake Telegram*, has been chosen president of the 1951 Western State Safety Conference, succeeding the late George H. Lowe, who passed away on January 6. The 13th annual session of the Conference will be held June 21-23 at Salt Lake City. Mr. Kretchman, a widely known newspaper executive, is first vice-president of the executive committee of the Governor's Traffic Safety Coordinating Committee in Utah.

Atlanta Fire Brigade

The Greater Atlanta Safety Council, cooperating with the Chamber of Commerce and other groups in that city, is sponsoring the formation of a Fire Brigade Association. Its purpose is to have a trained corps in every institution where 50 or more people congregate. The organizational meeting was attended by 150 representatives of large institutions. In addition to plant protection the brigades will also serve in civil defense.

Western Region "News"

The first issue of a regional news letter called *Western Region Community Safety News* appeared in early January. It is a newsy eight page planographed job filled with items of interest concerning Western councils and chapters. At present it is planned to publish the newsletter every three months.



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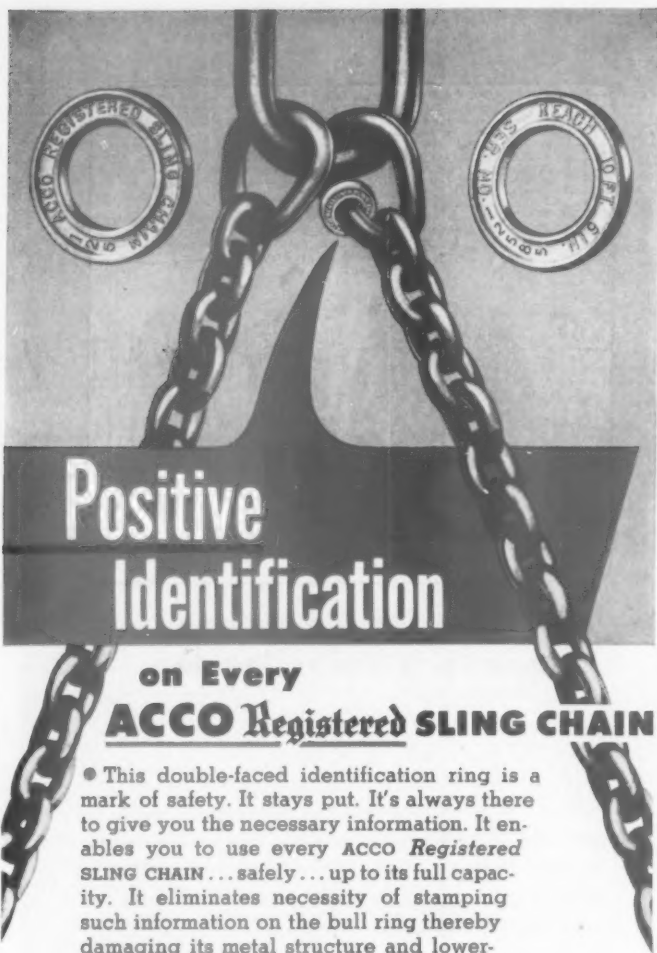
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In Business for Your Safety

The Western Regional office assisted with the first issue.

Dayton's Green Cross

Paul Goss, manager of the Dayton Safety Council of the Chamber of Commerce in that city, reports that his 1951 Green Cross financial campaign, just completed, was more successful than any previous annual drive. More than \$15,000 was raised, over and above the council's regular industrial membership contributions.

Two Cigarettes in the Dark — and Tragedy

This is the story of a couple who failed to learn from experience, as reported to the National Fire Protection Association by Assistant Fire Chief Bob Rogers, of Seattle, Wash.:

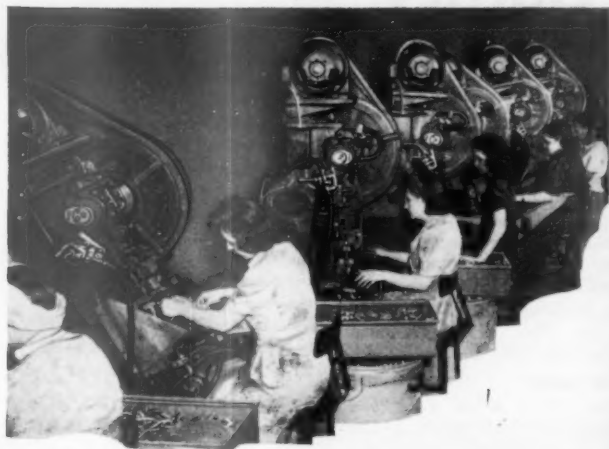
On July 17, 1948, we had a fire in a hotel room occupied by a husband and wife. It was caused by smoking in bed. The couple was smoked up a bit, we gave them a few whiffs of oxygen and a lecture on the evils of smoking in bed, cleaned up the mess and returned to quarters.

On June 8, 1949, at 12:22 a.m., we had a fire in a hotel room occupied by a husband and wife; in fact, it was the same hotel, the same room and the same couple as our fire a year previous. This time the couple got smoked up a bit, the woman was burned. We gave them some whiffs of oxygen, shipped the woman to the hospital, gave the man a lecture on the evils of smoking in bed, cleaned up the mess and returned to quarters.

On June 19, 1949, at 5:35 a.m., we had a fire in a hotel room occupied by a husband and wife. You guessed it, it was the same hotel, the same room and the same couple. This time the couple was knocked out and burned; in fact, the woman was dead and the man was shipped to the hospital, where he died three days later from shock and burns. There was no chance for a lecture this time, for both were unconscious when we got there.

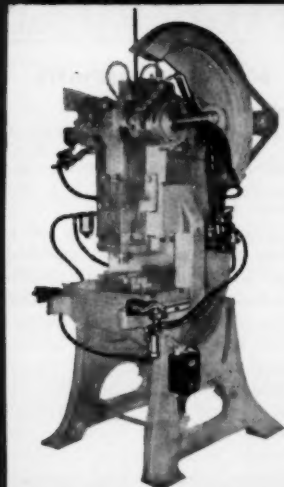
So endeth the story of Mr. and Mrs. Gus Lander—three fires, two lectures and two funerals. It seems that people and not things really cause fires.

Years of *SAFETY* for Minutes of Thought



SCHRADER TWO-HANDED PNEUMATIC POWER PRESS CONTROLS are standard in shops all over the country. They increase safety in two ways: 1. They are true *two-handed* devices; both hands must be used to operate the press and operator cannot defeat purpose of control by tying down one lever. 2. They are so easy to operate they reduce fatigue, regarded as one of the leading causes of accidents.

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SCHRADER CONTROLS are low in first cost and, unlike many protective devices, on the job every minute. Wherever used they reduce operator fatigue and the fear of accidents. This means better morale and increased production . . . especially on the fag end of the shift. Don't wait for an accident to remind you to buy SCHRADER POWER PRESS CONTROLS when you can save money, reduce accidents and increase production every day through their use. A few minutes thought now may give you years of safety. Write today for information and free literature.



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The Safety Library

Books, Pamphlets and Periodicals of Interest to Safety Men

BOOKS AND PAMPHLETS

Laboratories

Laboratory Design. By the National Research Council. Published by Reinhold Publishing Corp., 330 W. 42nd St., New York 18, N. Y.: 1951; 393 pages; \$12.00.

This treatise, the work of a large group of eminently qualified specialists, presents authoritative up-to-date advice and essential data on design, location, construction and equipment of laboratories for research and educational institutions and for industries. It is intended to be especially helpful to laboratory directors, research administrators, science teachers, architects and engineers, not only in planning and building but also in remodeling or enlarging existing quarters.

The book is divided into four major parts. The first is a general discussion of interior construction materials, furniture, plumbing, light and power, ventilation and safety measures.

Part II is on teaching laboratories with discussions of every phase of their design from site selection to interior arrangements. This section also has chapters devoted to various types of teaching laboratories such as those for analytical and organic chemistry and physical and electrochemical, biochemical, chemical engineering and metallographic laboratories.

Part III is on industrial laboratories with chapters devoted to special types of laboratories and their auxiliary rooms.

The last part of Laboratory Design is the most interesting of all because it contains concise descriptions of various types of laboratories, complete with plans, sections, and photographs. The book will be a welcome addition to the bookshelf of many a chemist,

laboratory technician, engineer, draftsman and architect.

Aeronautics

Personal Aircraft Inspection Manual. Published by Civil Aeronautics Administration. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. 1950. 81 pp. 55c. (CAA Technical Manual No. 101)

Child Labor

They Work While You Play. Published by U. S. Bureau of Labor Standards. For sale by the Superintendent of Documents, Washington 25, D. C. 1950. 26 pp. Price 15c. (Bulletin No. 124)

Fire Protection

National Fire Codes Vol. IV, Extinguishing and Alarm Equipment. Published by National Fire Protection Association, 60 Battery-march St., Boston 10, Massachusetts. 1951. 848 pp. Price \$4.00.

Pipes

Rules for Sizing and Installation of Pressure Relief and Safety Valves. Published by Standardization Committee, Heating, Piping and Air Conditioning Contractors' Chicago Association, 228 N. LaSalle St., Chicago 1, Illinois. 1950. 9 pp. Free.

Mines

Carbon Dioxide Guide in Fighting Metal-Mine Fires. Published by U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. 1950. 25 pp. Free. (Information Circular 7590)

Power Presses

Bliss Power Press Handbook. Published by E. W. Bliss Co., Toledo 7, Ohio. 1950. 717 pp. Price \$7.50.

Public Relations

Community Relations: Selected Cases. Published by the Policyholders Service Bureau, Group

Division, Metropolitan Life Insurance Co., One Madison Ave., New York 10, N. Y. 1950. 55 pp. Free.

Safety Movement—Foreign

Jahresherichte der Gewerblichen Berufsorganisationen für das Jahr 1948 (The Annual Summary of the Industrial Trade Associations for the Year 1948). Published by Grossbuchb. Kornel. Kaspers. Düsseldorf. Schinkelstrasse, 38/40. Germany.

Tanks

Safety Code for Ventilation and Operation of Open-Surface Tanks. Published by American Standards Association. 70 East Forty-fifth St., New York 17, New York. 1951. 23 pp. Price 75c. (\$9.1)

MAGAZINE ARTICLES

Accident Statistics

A Contribution to the Study of Accident Causes. By E. Bertschi. (In Industrial Safety Survey, July-August 1950. pp. 128-131.)

Aeronautics

Antiskid Devices on Bicycle-Type Bomber Landing Gear Make Landings Safer. (In CADO Technical Digest, February 1951. p. 5.)

Jets Ablaze. By H. A. Klein. (In Aero Digest, December 1950. p. 30.)

Your Airplane and Icing. (In Flying Safety, December 1950. pp. 14-23.)

New Yardstick for Transportation Safety. By Rudolf Modley. (In Aviation Week, February 5, 1951, p. 17)

Boxes

Safety in Making Box Shook. By Charles S. Houston. (In Safety Maintenance and Production, February 1951. p. 18.)

Construction

First Privately Owned Reactor Has Built-in Safety Features. (In Engineering News-Record, January 25, 1951. p. 36.)

Electronics

The Application of Electronics in the Field of Industrial Safety. By Eric Hellen. (In Industrial Safety Survey, July-August 1950. p. 121.)

Feet

Foot Injuries and Foot Protec-

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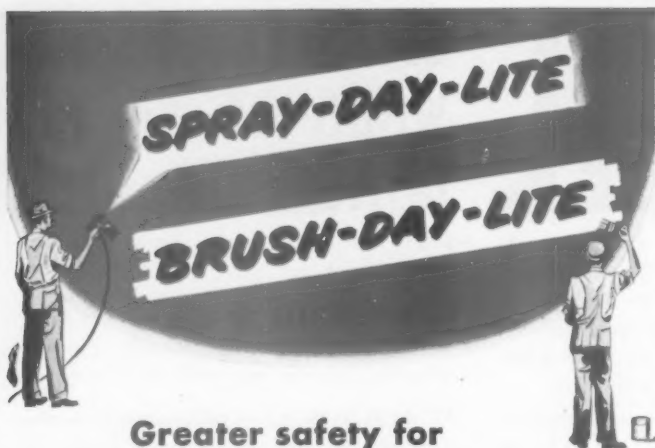
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tion. By Arthur S. Johnson. (In Loss Control, January 1951. p. 1.)

Fire Prevention

Prevent This! (In the National Provisioner, January 27, 1951. p. 9.)

Food

Sausage Shipped Safely in Portable Boxes. (In The National Provisioner, January 27, 1951. p. 10.)

Gas Industry

Accidents Can Cripple Your Manpower Reserves. (In American Gas Association Monthly, February 1951. p. 3.)

Handling Material

Safety in Cargo. By M. J. O'Leary. (In Proceedings of the Merchant Marine Council, January 1951. p. 7)

Health Supervision

An Analysis of Existing Types of Small-Plant Health Services in Northeastern United States. By R. B. O'Connor. (In American Medical Association Archives of Industrial Hygiene and Occupational Medicine, January 1951. p. 73.)

Medicine and Industrial Accident Prevention. By Irving R. Tabershaw and Wynant. (In Industrial Medicine and Surgery, February 1951. p. 86.)

Laundries

Safety in the Laundry and Dry Cleaning Plant. By Bernard P. Frank and Lester M. Merritt. (In Safety Maintenance & Production, January 1951. p. 29.)

National Defense

The Importance of Safety in the National Emergency. By Ralph Leadbeater. (In Supervision, February 1951. p. 17.)

Mining

What Makes a Safe Mine? By C. James. (In Mechanization, January 1951. p. 30.)

Publishing & Printing

Safety Pays Off in Cash! (In Bookbinding and Book Production, January 1951. p. 32.)

How Safe Is Your Folding Department? By Lillian Stemp. (In Bookbinding and Book Production, December 1950. p. 47.)

Rope

How to Take Care of Rope. By Paul C. Ziemke. (In Safety Main-

tenance and Production, February 1951, p. 23.)

Stunts

Introducing Novelty into Safety Propaganda. (In British Journal of Industrial Safety, Winter, 1950, pp. 250-252.)

Waste

New Method to Combat Industrial Smog. By Robert Spencer. (In Pacific Factory, February 1951, p. 20.)

Accident Prevention Clinic at Iowa State College

Through its Engineering Extension Service in cooperation with the Industrial Division of the Iowa Safety Congress, a three-day clinic devoted to accident prevention in industry will be held in April on the campus of Iowa State College at Ames.

Small establishments will be of prime importance in this clinic. The clinic proposes to help to give them a working knowledge of safety programs.

Conducted as a workshop, the clinic will have as discussion leaders men associated with safety and allied problems in Iowa. They will be augmented by college faculty members.

Subject matter for the clinic will center on the basic problems of: Evaluation of plant and personnel to determine the program needed; setting up a required accident-prevention program; and methods of administering an effective accident-prevention program.

Specific accident-prevention areas to be covered will include: Casualty insurance and service, workmen's compensation, inspection for physical hazards, protective equipment and devices, job analysis for hazards, visual aids in safety, accident records and analysis, industrial medical service, occupational health, human relations and safety, management responsibility, and worker cooperation and participation.

Requests for further information should be addressed to: Industrial Accident Prevention Clinic, Engineering Extension Service, Room 110, Marston Hall, Iowa State College, Ames, Iowa.

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Prepared for the Worst

(From page 32)

body, the organization of Civil Defense fans out over all Britain. The various voluntary organizations which link the planning "brain" to the homes and work places of the people are, first, the Civil Defense Corps, which deals with all the general tasks of warning, liaison with the public, and organization; and the allied specialist services—the Auxiliary Fire Service, the National Hospital Reserve Service, and the Special Constabulary.

These are all organized on a local basis and the responsibility for their administration lies with the local authorities. The Women's Voluntary Services have no official standing, but, as in so many other spheres of British life, they play a great part in providing volunteers in the education of that important majority of the population—the women of Britain—in their civil responsibilities.

All these locally organized bodies help to create and guide what Mr. Attlee called the "unexampled display of neighborliness on the part of the whole community without distinction" which played so decisive a role in defeating the air attacks of World War II. But before this element of public cooperation can have full play, a further stage of technical training is necessary. This is provided by the Home Office Defense Technical Training Schools. The first of these opened at Easingwold, in North England, last year, and the second at Faldfield in West England. A third is shortly to be opened in Scotland.

Effects of Atomic Bombing

These schools give extremely thorough training to instructors in all the most recent methods of Civil Defense. At Easingwold a whole "ruined" village has been constructed, illustrating the effects of atomic bombing and providing students with a completely realistic training-ground comparable

to the sites of army battle training. Even "casualties" are provided by actual people made up with all realism to represent the victims of the various forms of injury. The students also have to work in radio-active areas to learn how to use the new instruments which have been designed for detecting and measuring radio-activity such as would result from an atomic explosion.

More than 1,000 key instructors have been trained at these colleges, and they, in turn, have trained secondary instructors in their own localities. Thus, an effective network of technical training and instruction has been built up. The network is not confined to the land, for Britain's seaways are as vital as her roads, railways, factories or farms, and merchant ships were the target of some of the fiercest attacks of past wars. Courses have been organized for the officers and men of the Merchant Navy.

Meanwhile, the authorities are pursuing research into new techniques of defense and protection. A nation-wide survey of air raid shelters has been launched as a basis for a comprehensive plan for adapting and supplementing existing shelters particularly with a view to defense against atomic



At the Civil Defense battle school at Easingwold, an instructor paints a flash-burn blister on a patient. Realism in training aids in conditioning workers for actual emergencies.

war. The public has responded well to the Government's initiative. By December 1, 1950, 118,000 men and women had volunteered for the Civil Defense Corps, the Auxiliary Fire Service, Special Constabulary, and National Hospital Reserve Service; and recruitment goes on at the rate of about 3,000 a week. Anyone who has seen these volunteers at their training, or has had an insight into the research that has been done in this field, is in no doubt about Britain's preparedness.

Studies Show Increase In Life Expectancy

American boys entering employment at age 18 have 66 chances in 100 of living to the retiring age of 65. For their grandfathers who started work around the turn of the century the chances of attaining age 65 were only 51 in 100.

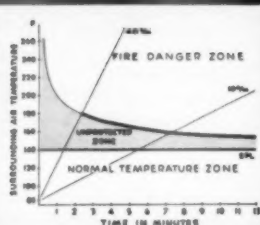
This is based upon a study by Metropolitan Life Insurance Company statisticians of the improvement since 1900 in the chances of survivorship. During the first half of the 20th century expectation of life at birth in the United States has increased from 49 to 68 years.

The outlook today for years of life after the age of retirement is more favorable than is generally realized, with the chances about 58 in 100 that men at age 65 will live at least 10 years longer, the statisticians note.

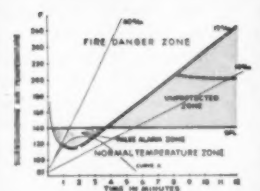
Likelihood that a man will survive from his 23d to his 52d birthday, the usual interval from marriage until the last child leaves the family, is about 88 chances in 100, while at the turn of the century the chances were only 74 in 100.

Chances of survival for women are substantially more favorable than for men throughout life, according to the statisticians. At present a woman at age 23, the average age at which the first child is born, has 94 chances in 100 of living to her 49th birthday to witness the marriage of her youngest child; in 1900 the figure was 80 in 100.

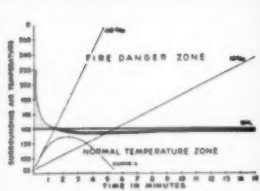
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OLD Fixed Temperature Principle, with its inherent thermal lag, shows a large unprotected zone above 140°F.



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NEW DETECT-A-FIRE Principle of dynamic fire detection is rate-compensated to give immediate alarm for the 97% of all fires, which are non-explosive.



VERTICAL MOUNT DETECT-A-FIRE for locations electrically classified "hazardous." (Class I, Groups C & D, Class II, Groups E, F, G) - Type 10 for normally closed circuits; Type 11 for normally open circuits.

Now! Only the Fenwal **DETECT-A-FIRE** gives you **DYNAMIC** fire detection

*A newly developed
"Rate-Compensated" Principle*

No other fire protection like it!
DETECT-A-FIRE's DYNAMIC Fire Detection operates whenever surrounding air temperature reaches pre-determined level— independent of rate of air temperature rise under predominant fire conditions.

How is this accomplished?

Unique Construction

The **DETECT-A-FIRE** mechanism consists primarily of an outer shell and inner strut assembly. The shell is the temperature-sensitive activating component — always totally in direct contact with the air. Increase in temperature causes the shell to expand, making or breaking the totally enclosed electrical contacts.

Unique Performance

The entire device, including the internal strut mechanism, is at the set-point temperature when originally temperature-set and hermetically sealed at the factory. If subjected to very slow rates of rise, it heats up nearly evenly throughout, operating exactly at

its set-point temperature. If subjected to more rapid rates of rise, the shell expands first, creating an anticipation or rate-compensation effect. This is controllable by proper selection of alloy metals of both shell and strut assemblies. This alloy selection enables Fenwal engineers to develop a unit which operates only when surrounding air temperature has reached pre-determined level under all rates of rise of predominant fire conditions.

Unique Benefits

With **DETECT-A-FIRE's** principle of DYNAMIC fire detection you get, in one unit —

The best protection against the 97% of all (non-explosive) fires

Sensitive response to temperature changes at any rate of rise

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No false alarm nuisance

Write now for complete data. Find out how the Fenwal **DETECT-A-FIRE** can help you.

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bulletin gives you complete specifications on amazing Detect-A-Fire. See how you, too, can improve your fire alarm and extinguishing systems. Just mail coupon.

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...save time! One size fits all heads... reduces inventories. Fully adjustable headband and hammock; can be changed in six seconds. Self-shaping and air-cushioned for comfort.



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Personals

GERARD O. GRIFFIN, director of safety for Dravo Corporation and its subsidiaries, has been named insurance manager for the company. He replaces ROBERT HUGHES, who has been appointed executive assistant to the general manager of the Engineering Works Division.

Mr. Griffin, who has been Dravo's safety director since 1935, will continue in that position. He is a member of the American Society of Safety Engineers and was vice chairman of the Western Pennsylvania Chapter in 1949. He also is a director of the Western Pennsylvania Safety Council and a member of the Pittsburgh Chamber of Commerce.

Mr. Hughes has been with Dravo since 1946 and served as a Commander in the U. S. Navy during World War II. He is a member of the American Society of Naval Engineers, the Pittsburgh Personnel Association and the Insurance Buyers of Pittsburgh, and an associate member of the U. S. Naval Institute.

CAPTAIN HARRY W. BAUMER (CEC) USN, has been named director of the Safety Division of the Office of Industrial Relations.

Captain Baumer holds a B.S. degree in engineering and was awarded a professional engineering degree, both from the University of Illinois. Before entering the Navy he was engaged in industrial, utility, and municipal work involving both finance and engineering.

Since being commissioned in the Navy, Captain Baumer has served as Executive Assistant Public Works Officer and Assistant Officer in Charge of Construction at the Mare Island Naval Shipyard, Public Works Officer at the same base, Assistant Director of the Progress Control and Statistics Division in the Bureau of Yards and Docks, Officer in Charge of the 5th Naval Construction Brigade in Guam, Marianas Area Engineer and Base Development Officer, and Public Works Officer and Deputy Officer in Charge of Construction at the Long Beach Naval

Shipyard. While on duty at Mare Island he served as Senior Member of the Port Chicago, California, Ammunition Ships Explosion Naval Board of Investigation.

Prior to his transfer to the Safety Division, OIR, Captain Baumer was with the Office of Naval Material as Assistant Chief, Director of the Facilities Policy Division, and Head of the Facilities Review Branch.

JAMES H. STERNER, M. D., has been appointed medical director of Eastman Kodak Company, Rochester, N. Y. He succeeds DR. WILLIAM A. SAWYER, Kodak's medical director for 31 years, who will continue as medical consultant.

Dr. Sterner is a graduate of Pennsylvania State College and Harvard Medical School. He joined the Kodak organization in 1936 as director of the company's Laboratory of Industrial Medicine, and has been associate medical director since January 1949.

RICHARD P. HILL has been named district safety director at San Francisco for the Kemper group of insurance companies. He succeeds R. C. BARR, a veteran of 20 years with the organization, who asked to be relieved because of ill health. Mr. Barr will continue to serve in a consulting capacity.

Mr. Hill has been serving in the Seattle office of the Kemper organization as a safety engineer. He is a former fire and safety inspector for the Seattle harbor department. He served with the army in Alaska during World War II and attended Oregon State University.

GERALD A. BALZERSEN has been appointed manager of industrial relations at the synthetic rubber plant at Institute, W. Va., operated for the government by B. F. Goodrich Chemical Company.

Mr. Balzersen has had 13 years in safety engineering and personnel work and since 1947 had been in charge of all safety and training programs for plants of B. F. Goodrich Chemical Company.

A graduate of Port Arthur College, Mr. Balzersen joined the company in 1943 at the Port

Neches, Texas, plant as safety engineer. He also was safety and training director at the company's plant in Louisville, Ky. A member of the American Society of Safety Engineers, he is a past president of the Kentucky Society of Training Directors.

Wallace B. Phillips Heads Pyrene Company

WALLACE B. PHILLIPS, chairman of the Royal Society for the Prevention of Accidents, London, England, has been elected president of Pyrene Manufacturing Company, manufacturers of fire-fighting equipment, Newark, N. J.



Wallace B. Phillips

Mr. Phillips has been associated with Pyrene since 1913. In January of that year he was one of three associates who formed an agency to sell extinguishers in Europe, Africa and the Far East. In February, 1914, this agency was absorbed by the Pyrene Company, Limited. He has been chairman and managing director of the British company since its organization.

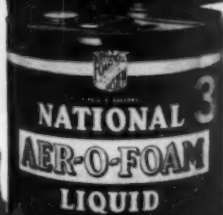
Mr. Phillips was born in New York City and has retained American citizenship during his years spent in other countries. Frequent visits to the United States have kept him well-informed concerning American business conditions and progress and his activities in many fields have given him international repute.

In 1917 he was a founder member of the National "Safety First" Association, now the Royal Society for the Prevention of Accidents. He has served this organi-

GET A GRIP ON FIRE PROTECTION COSTS

Use 3% AER-O-FOAM[®]

Snuffs-Out Oil
and Gasoline Fires
—FAST!



Actual dollar savings is one of the many advantages you gain by using 3% Aer-O-Foam Liquid. That's because half as much of it produces as much foam as a same amount of the regular 6% concentrate . . . at less cost.

This is not the only way you save money with 3% Aer-O-Foam. Besides lowering foam costs, it cuts in half storage space requirements, thereby reducing handling time and shipping space needs.

Fights Fires Better

Laboratory tests prove Aer-O-Foam gives better all-around performance than other brands of 3% Liquid. Let it do the same for you. Specify and insist on 3% Aer-O-Foam Liquid.

HERE'S PROOF

Actual laboratory tests figures prove 3% Aer-O-Foam gives better performance.

	Foam Expansion at 70°F. (Gallons of foam per gallon of solution)	Minimum Operating Temperature*, °F.	FIRE TEST in accordance with nationally recognized standards				
			Coverage (minutes)	Control (minutes)	Extinguishment (minutes)	Vessel Sealing Ability (minutes)	Burn-Back Area** (inches square)
3% Aer-O-Foam Liquid	10.25	0	0.80	1.66	2.25	20.0	10
Brand "Y"	9.00	6	1.33	4.00	4.33	6.5	19
Brand "Z"	8.50	14	2.50	4.33	5.17	2.0	30

*Temperature below which foam liquid viscosity increases so that pick-up rate is too low.

**A six-inch square hole is cut in blanket, re ignited and permitted to burn for five minutes. The extent of increase of exposed surface is then measured.

NATIONAL FOAM SYSTEM, INC.

Headquarters for Foam Fire Protection
WEST CHESTER, PENNA.

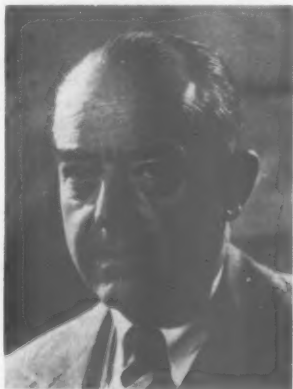


zation, which is the British counterpart of the National Safety Council, as vice-president, honorary treasurer and chairman of the executive committee. He has been a speaker at several National Safety Congresses during his visits to the United States.

Heads Code Committee

MYRON PARK DAVIS, chief chemist and metallurgist, Otis Elevator Company, has been elected chairman of the Safety Code Correlating Committee of the American Standards Association. This committee is the top technical group in charge of development of national safety standards under the procedures of the Association.

Mr. Davis has taken a leading part in work on industrial standardization for many years. He has been chairman of the Electrical Insulating Materials Commit-



M. P. Davis

tee of the American Society for Testing Materials, and is a member of ASTM committees on cast iron; petroleum products and lu-

AVAILABLE SAFETY DIRECTOR

12 years diversified experience in directing Safety; Plant Protection, and Efficiency Programs for leading nationally-known firms. Interested in becoming associated with a large corporation, or company having multi-plant operations. Member ASSE. University education, free to locate anywhere in U.S.A. Write Box 417, NATIONAL SAFETY NEWS.

bricants, rubber products, and plastics. Mr. Davis is also a member of the American Chemical Society and the American Society of Metals.

Obituary

ROBERT C. STANLEY

ROBERT C. STANLEY, chairman of the board and former president of International Nickel Company,



Robert C. Stanley

died February 12 at his home on Staten Island, N. Y., after a stroke. He had been a Trustee of the National Safety Council since the organization of that group and vice-chairman of the Trustees since 1946.

Born in Little Falls, N. Y., August 1, 1876, Mr. Stanley was internationally known in the mining field and had been honored by several countries for his contributions to progress in the industry.

He was graduated from Stevens Institute of Technology, Hoboken, N. J., in 1899, and joined International Nickel Company in 1901. He was general superintendent from 1914 to 1918 and first vice-president the following four years. He was president of the company from 1922 until he retired from that post last year.

ALBERT E. DAVIS

ALBERT E. DAVIS, superintendent of safety for the Chicago, Burlington & Quincy Railroad, and a member of the Program Committee of the Railroad Section, NSC, died March 8 in the Burlington Hospital, Burlington, Iowa. He was 63 years of age.

Mr. Davis had been with the Burlington since 1909. Surviving are his widow, Bessie, and a son, George, both of Riverside, Ill., and a daughter, Mrs. Helen Farmer, of Sandwich, Ill.

ROY S. MARSHALL

ROY S. MARSHALL, president and owner of the Sunset Outdoor Advertising Company of Seattle, passed away suddenly on Sunday, February 25, following a heart attack. Only a few days previously, his mother had died in Seattle. Mr. Marshall attended the last Safety Congress in Chicago and was one of the speakers at the manager's conference. He was a member of the Board of Directors of the Seattle Safety Council and a for-



Ray S. Marshall

mer president of that organization. He also served as chairman of the Public Support Committee of the Governor's Highway Safety Conference in the State of Washington. Mr. Marshall was a national figure in the outdoor advertising field and his firm carried on extensive operations on the West Coast. He was 49 years of age.

Ampco's all-purpose bung wrench fits 17 different closures. It's the ideal safety tool for opening drums of gasoline and dozens of other inflammable materials.

The *Cheapest* Insurance You Can Buy

...Ampco Safety Tools for every job where a spark spells disaster

For hazardous locations, a few dollars invested in the right Ampco tool can prevent thousands of dollars worth of property damage — lost time and lost lives!

That's why Factory Mutual Laboratories and other safety authorities approve and recommend Ampco Safety Tools. Select the right tool for every job from the more than 400 individual items that make Ampco the world's most complete line of safety tools. Enjoy lower insurance rates — and plant-wide peace of mind that builds greater job efficiency!

How to choose Safety Tools



For tools subject to impact and/or torque — specify tools of Ampco Metal.



For jobs around acetylene and similar gases — specify Ampco Monel® tools.

*Trademark International Nickel Co.



For tools with cutting edges and gripping teeth — Ampco beryllium copper.



Ampco Metal, Inc.

Dept. NS-4 • Milwaukee 4, Wisconsin

West of the Rockies, it's the Ampco Burbank Plant, Burbank, Cal.

"Bottled Safety"



hat when he bucked a tree. But not so in this safety-conscious age. Safety engineers have changed the style in loggers' hats, and they've even created a new type of bottle for saw oil.

One day last year, when Frank Peterson reported for work, he was wearing the latest thing in logger headgear; it was metal,

Left: Frank Peterson, 70-year-old buckler on Weyerhaeuser Timber Company's Vail-McDonald tree farm in western Washington, uses one of the new aluminum saw-oil bottles. Recently a big truck rolled over the bottle but dented it only slightly.

Claude Kanoff, right, boss of a crew on the Vail-McDonald tree farm, holds one of the new cast aluminum saw-oil bottles. Kanoff got the idea of making the bottles out of something less fragile than glass. Talking with Kanoff is Paul LeRoy, Vail-McDonald safety engineer. He is holding one of the obsolete glass bottles.



Logging is different now. New devices, new ways of doing things have made the woods a safer place to work.

No one realizes this better than Frank "Downhill" Peterson, a buckler on the Weyerhaeuser Timber Company's Vail-McDonald tree farm in the Douglas fir region of Washington state. He is one of a crew that cuts felled trees into sawlog lengths.

Since he first started logging, 70-year-old Frank Peterson has seen some vast changes in the woods. Once he wore a soft felt

built to protect his skull from falling limbs. In his hand, Frank carried the new saw-oil bottle. It, too, was built of metal.

The hard hat was not new. Loggers on the Vail-McDonald tree farm have been wearing hard hats as standard equipment since 1947.

But the metal oil bottle, cast from aluminum and painted a bright yellow, was a novelty.

Like other buckers working in the Pacific Northwest woods, Frank Peterson had long carried a saw-oil bottle. He uses the oil, usually diesel, to remove pitch

from his saw, and that keeps the saw from binding when it bites into a tree.

Traditionally, saw-oil bottles have been glass—beer or whiskey bottles, picked up, perhaps, from the bunkhouse dump. For old-timer Frank Peterson, carrying a saw-oil bottle made of aluminum was a new experience.

The aluminum oil bottle is the brainchild of Claude Kanoff, bull-buck (boss of a bucking crew) on the Vail-McDonald tree farm.

About six months ago, Kanoff was looking for oil bottles—the glass variety—but he couldn't find any at camp. Then the idea hit him—use bottles made of something other than glass, something that wouldn't shatter.

He reasoned that glass bottles sometimes break, cause a nasty cut, and spill oil on your skin and clothing. That oil, especially in hot weather, can result in a painful burn. And besides, glass from a broken bottle, when lying around in the woods, can act like a magnifying lens—focus the sun's rays on one spot and start a forest fire.

Kanoff passed his idea on to Safety Engineer Paul LeRoy, and LeRoy took it to his safety committee. The committee put its okay on the idea and tossed it to Bert Morison, purchasing agent.

Morison did some fast thinking and looked for someone to make the bottles. First, he tried plastic, but couldn't get it. Then, finally, he went to a Tacoma foundry, asked if the bottles could be cast from aluminum. He took with him an old fifth-of-a-gallon beer bottle.

The foundryman told him that his foundry would cast the bottles, and they'd be light, too, about the same weight as the beer bottle. And because these bottles could be made in quantity for sale throughout the logging industry, he'd cut the cost to a minimum. Morison gave his approval and suggested that the bottles be painted bright yellow so that they could be seen easily in the woods.

Some weeks later Paul LeRoy issued 200 of the bottles to his loggers.

a **GLASS** eye
is no bargain
at **ANY** price!



"An eye for an eye" is a poor exchange. Especially if you do the trading, and give one of your own for a glass imitation.

The foregoing is reprinted from another of the graphic series of educational pieces in poster and pamphlet form designed by Bausch & Lomb to help sell your workers on a *desire to use* safety glasses.

Let this material help you with your present eye safety program. It's part of the *total* service offered by this pioneer in industrial eyewear.

1 SELL EYE SAFETY TO EMPLOYEES

Ask your distributor's representative to show you the kit of posters, pay envelope inserts, PA system scripts and other material that sells workers forcefully on *desire to use* proper safety eyewear.

2 SAFETY GLASSES FOR EACH JOB

A complete range of Bausch & Lomb safety eyewear, engineered to meet the most rigid

tests for each job classification in your plant.

3 PROTECTION PLUS CORRECTION

For at least 50% of your workers prescription lenses are necessary to working efficiency as well as to safety. Your B&L distributor offers prompt prescription service on all types of industrial eyewear.

Write Bausch & Lomb Optical Company,
681-4 St. Paul St., Rochester 2, New York.



BAUSCH & LOMB

Safety Eyewear

All-Out for Fire Protection

(From page 21)

to various foam applicators throughout the ship.

Seven nozzle applicators are conveniently spaced along the catwalk which extends lengthwise down the middle of the ship, and can be readily attached to standard fire-fighting hose. These nozzles contain a foam maker, and deliver a stream of foam for the control of main deck fires and cargo tank fires amidship. A hose nozzle is also located aft for protection against flammable liquid fires that might break out in that region. For extremely small fires or for training purposes, foam liquid may be picked up from cans near the nozzles along the catwalk, without resorting to use of the pressure proportioners.

Six foam applicators, called marine floor nozzles, are located in the boiler room. Discharge deflector plates at the bottom of the nozzles are from 9 to 12 inches above the floor plates. Foam is actually produced as the water-liquid solution passes through a foam maker in the piping at the top of the nozzle. The foam-making action is similar to that of beating up the white of an egg. Air that is induced by the foam maker is churned up with the water-liquid solution. As foam is produced, it flows gently out of the nozzle to blanket the surrounding floor area quickly. Floor fires resulting from broken flammable liquid pipe lines and other causes are quickly snuffed out by the foam blanket.

Eight marine floor nozzles are spotted throughout the engine room. Two are located in the cargo pump room, and one in the forward pump room. Added protection for the cargo pump room is provided by three overhead spray deflectors, which are used to send a foam spray downward on overhead piping and the pumps themselves, as well as the floor area below.

Under U. S. Coast Guard requirements, sufficient foam must

be produced to cover the floor areas with a 6-inch depth in three minutes. However, tests conducted beforehand by the National Foam System on a full scale mock-up of the ship showed that actually these floor nozzles will do much better than that.

Here are some other advantages of this mechanical foam installation:

It will deliver either water or foam to the various outlets, depending on immediate requirements. It is not necessary to use all the outlets at once. Any number of outlets in any section of the ship may be turned on at any one time. No trick operation is required to do this, just the adjustment of a few valves from the main deck. Then, too, if the supply of foam liquid in one of the large proportioners is used up, the other may be used while the first is being refilled to give continuous operation. And in case the supply of foam liquid in both large proportioners is exhausted, auxiliary cans of liquid are placed at strategic points throughout the ship. All in all, more than 1000 gallons of foam liquid are available, enough—when mixed with water—to make almost 170,000 gallons of foam. Either fresh or salt water

may be used to produce the foam.

In addition to the piped mechanical foam system, the usual salt water fire main is provided to serve some twenty-nine fire stations throughout the length of the ship. Three of these stations consist of fire monitors, being located at the starboard forward and the port after ends of the upper bridge deck amidship, and on the centerline at the forward end of the poop deck house, all strategically located to fight deck and dock fires. All fire stations, except engine and boiler rooms, utilize the combination stream and fog nozzle, the two exceptions being fitted with waterfog nozzles only. At each of six stations is located a ten-foot waterfog applicator, and in the passageway of the crew quarters aft is a six-foot waterfog applicator.

In special locations additional fire fighting facilities have been installed. The paint and lamp lockers in the forecabin space are each protected by a piped carbon dioxide system with manual release. The electrical switchboard and generator flats in the engine room also have carbon dioxide gas protection, with application via hose on trunnion reel with control nozzle. Numerous portable hand fire extinguishers—composed mainly of 20-pound dry chemical, 2½-gallons anti-freeze liquid, ½-gallon pressure carbon tetrachloride, and 15-pound carbon dioxide—are located at key points throughout the living and working spaces of the vessel.

Thus the *Atlantic Seaman*, new super tanker, takes to sea completely equipped for fire emergencies.



"Their boiler exploded because of inefficient combustion safeguard. . . . Now's the time to get our foot in the door!" (Courtesy Wheelco Instruments Company)

Mine Safety Meeting

The Mine Accident Prevention Association of Ontario will hold its annual meeting May 24 and 25 at the King Edward Hotel, Toronto. The program will include a panel discussion on the prevention of accidents from falls of rock, and papers on other major safety problems in the mining industry.

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First—Last
and Always*

PERFECT RESISTANCE TO DUST, FLAME,
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COMING EVENTS

In the Field of Safety

Apr. 3-6, New York

Twenty-first Annual Greater New York Safety Convention and Exposition. (Hotel Statler). Paul F. Stricker, executive vice-president, Greater New York Safety Council, 60 E. 42nd St., New York 17.

Apr. 10-12, Columbus, O.

Twenty-first All Ohio Safety Congress and Exhibit. (Neil House). James H. Fluker, Superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

Apr. 18-20, Tulsa, Okla.

Annual Statewide Safety Conference. (Mayo Hotel). Lloyd Palmer, manager, Oklahoma State Safety Council, Oklahoma City, Okla.

Apr. 18-20, Charleston, W. Va.

Seventeenth Annual West Virginia Statewide Safety Conference. (Daniel Boone Hotel). Mrs. W. C. Easley, acting managing director, and executive secretary, West Virginia Safety Council, 316 Masonic Bldg., Charleston, W. Va.

Apr. 19-20, Louisville, Ky.

Annual Kentucky Statewide Safety Conference. (Kentucky Hotel). Estel Hack, managing director, Louisville Safety Council, 214 Speed Bldg., Louisville, Ky.

Apr. 19-21, Kansas City, Mo.

Central States Safety Congress. George M. Burns, director, Kansas City Safety Council, 419 Dwight Bldg., Kansas City 6, Mo.

Apr. 23-24, Toronto, Ont.

Industrial Accident Prevention Associations, Annual Convention. (Royal York Hotel). R. G. D. Anderson, general manager, IAPA, 600 Bay St., Toronto 2, Ont.

Apr. 23-26, Pittsburgh, Pa.

Twenty-sixth Annual Western Pennsylvania Safety Conference and Exhibit. (William Penn Hotel). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 605 Park Bldg., Pittsburgh 22, Pa.

Apr. 24-25, Fort Wayne, Ind.

Eighth Annual Northeastern Indiana Safety Conference and Exhibit. (Chamber of Commerce Bldg.). Irv Denton, manager, Chamber of Commerce Safety Council, 826 Ewing St., Fort Wayne 2, Ind.

Apr. 25-26, Niagara Falls, N. Y.

Eleventh Annual Western New York Safety Conference. (Hotel Niagara). E. C. Hohlstein, c/o Bullovak Div., Blaw-Knox Co., 1543 Fillmore Ave., Buffalo, N. Y.

Apr. 26, Bridgeport, Conn.

Connecticut Safety Society, Annual Conference. (Hotel Stratfield). Donald H. Ackley, c/o G and O Manufacturing Co., P. O. Box 1860, New Haven, Conn.

May 9, Bethlehem, Pa.

Twenty-fourth Annual Eastern Pennsylvania Safety Conference. Harry C. Woods, executive secretary, Lehigh Valley Safety Council, 602 East Third St., Bethlehem, Pa.

May 10-11, Baltimore, Md.

Maryland Statewide Safety-Health Conference and Exhibits. (Lord Baltimore Hotel). Joseph A. Haller, director of safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

May 14-16, Syracuse, N. Y.

Central New York Safety Conference and Exposition. (Hotel Syracuse). Walter L. Fox, executive secretary, Safety Division, Syracuse Chamber of Commerce, 351 S. Warren St., Syracuse, N. Y.

May 16-18, Winston-Salem, N.C.

Twenty-first Annual North Carolina Statewide Industrial Safety Conference. (Robert E. Lee Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, N. C.

May 17-18, Duluth, Minn.

Twenty-seventh Annual Conference Lake Superior Mines Safety Council. (Hotel Duluth). John A. Johnson, chief, Accident Prevention and Health Division, Region V, U. S. Bureau of Mines, 18 Federal Bldg., Duluth 2, Minn.

May 22-24, Grand Rapids, Mich.

Annual Michigan Safety Conference. (Civic Auditorium). Vernon W. Hale, executive secretary, Michigan Safety Conference, 302 Association of Commerce Bldg., Grand Rapids 2, Mich.

May 24-26, Norfolk, Va.

Seventeenth Annual Virginia Statewide Safety Conference. William M. Meyers, executive secretary, Richmond Safety Council, Allison Bldg., Richmond 19, Va.

June 4-7, Chicago

Twenty-eighth Annual Midwest Safety Conference. (Congress Hotel). Joseph F. Stech, manager, Greater Chicago Safety Council, 10 N. Clark St., Chicago 2.

June 21-23, Salt Lake City

Thirteenth Annual Western States Safety Conference. Clarence Williams, executive director, Utah Safety Council, State Capitol Bldg., Salt Lake City, Utah.

Sept. 6-7, York Harbor, Me.

Twenty-fourth Annual Maine Safety Conference. Arthur F. Minchin, director, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

Oct. 8-12, Chicago

Thirty-ninth National Safety Congress and Exposition. (Stevens Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

"The Thing" Had Them Curious



The mysterious box which "washed up on the beach" and has had all America talking about "The Thing" turned out to be a "Don't Jaywalk" safety promotion recently in Denver. At the Gates Rubber Company, which employs around 7,000 persons, a big, padlocked box suddenly appeared under spotlights in the employee cafeteria. After plant publications ballyhooed the time the box would be opened, curiosity was getting the best of everyone.

Opened, the box revealed "the remains" in dummy form of A. Jaywalker. "Here lies A. Jaywalker," the sign inside the box read, "always taking chances, even to the end!" Another sign said: "This is the box that washed up on the beach—those who persist in being A. Jaywalker will also be washed up—all washed up!" How many employees the stunt kept from jaywalking is not known. But the "Thing" went over with a bang among employees.

No Smoke

(From page 34)

tion tubular-type air preheaters with a total heating surface of 16,500 square feet to provide an over-all efficiency, at full load of 75 per cent with blast furnace gas and 84 per cent with coal.

Coke oven gas pilot burners are installed in each unit and are capable of producing about 20,000 pounds of steam an hour at full valve opening. Superheat temperature from each boiler is controlled by an automatically operated atomizing, spray-type desuperheater in each boiler steam discharge outlet. There are no surface condensers available to provide pure water for this purpose, so the condensate from the high and low-pressure heaters is used.

To minimize maintenance and operational problems, all driven units possible are located on the ground floor. All feed water heaters and pumps are concentrated in one bay at the east end of the boiler house.

Most auxiliary units having high power requirements are steam turbine driven with electrically driven standby units for flexibility of operation and protection against failure. Pressure for driving the auxiliary turbines were determined from heat balance studies.

Pulverizer drives are an exception, for it was felt that steam requirements from coal are so low (approximately 10 per cent of the total) that only a drastic failure of all five units could affect plant operation. As a result, all pulverizers, feeders, and scales are motor driven.

With the exception of the coal-handling system, from coal tower to pulverizers, all units are broken up into duplicate sizes and are so cross-connected that only a major failure can seriously affect plant production. Pumps are also installed in duplicate sizes of partial plant capacity, with an extra unit as emergency standby.

Clean water for the boilers presented a problem, as no condensate return can be anticipated in the immediate future, leaving raw river water from the Monongahela River as the only available source.



For greater safety under foot,
in your plant and on your products

Inland 4-Way Safety Plate®



Easy Assembly



Safe Footing



More Traction



Adds Strength



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Ideas—Just Out! Bulletin
F1. Complete engineering
and application data.
Send for it!

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TM Alloy STEEL CHAIN



This Registration Ring bears the chain's serial number. It's your assurance of thorough testing and inspection before shipment.

The mark of quality and lower chain costs

TM Alloy Steel Chain is quickly identified by the drop forged registration ring bearing the chain's serial number. It's your assurance of premium quality chain—chain that's tougher, harder and twice as strong as wrought iron chain—chain that never requires annealing—chain that is highly resistant to shock, grain growth and work-hardness at all temperatures. You gain lower chain costs—lower accident rates with TM Alloy Steel Chain.

Call your mill supply house today or send coupon.

S. G. TAYLOR CHAIN COMPANY, HAMMOND, IND.

S. G. TAYLOR CHAIN COMPANY
Dept. 7 Hammond, Indiana
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City _____ State _____

TAYLOR MADE
A GREAT NAME IN
Chain SINCE 1873

To solve the problem, it was decided to make use of seven existing settling basins and to hasten the settling process by the use of coagulants.

The new water softening plant is of conventional design except for size as related to steam output. Because of the varying qualities to the make-up water and consequent varying blowdown from the boilers, it was necessary to design the water-softening plant larger than is customary.

The treating plant is of the lime-soda, hot-process type, effecting silica and hardness reduction in reaction tanks, followed by filtering and stabilization before delivery to de-aerating equipment.

All chemicals are handled from cars by means of skids and a storage-battery lift truck, up an elevator and down a ramp to the second floor of the water-softening plant. Bags of chemicals are opened on this second floor and the contents poured through a pipe to the proper mixing tanks. The mixing tanks are served by a separate ventilating system discharging into a small cyclone collector from which waste materials can be recovered.

Indicating and recording instruments and control stations throughout the plant keep the staff thoroughly informed and in control of operating conditions at all times, while up-to-date safety factors and building services make the new smokeless, high-pressure boiler plant a safe and comfortable place for employees.

Diary

(From page 31)

An' Leonard won't never know I'm also teaching 'em the tricks of not getting hurt or hurting other guys. Yeah, an' I bet before I get through, after I'm really set with Leonard, I'll run the darnedest safety meetings a small section ever had, an' I bet I get Leonard involved in those meetings, too, an' I bet within a year I'll have him so sold, he'll run a safety program in the whole darned annex."

I said, "I'm betting on you. You're a smart guy, Joe."

And Joe said, with deep fervor, "You're damned right I am!"

THE HONOR ROLL

Records of operation exceeding 500,000 man-hours, or one year, if exposure exceeds 250,000 man-hours, without a disabling (lost-time) injury are invited.

Celanese Corp. of America

Staunton, Va.—March 5, 1950, to January 16, 1951; 1,040,825 man-hours; continuing.

The B. F. Goodrich Rubber Co., Ltd.

Kitchener, Ont.—October 12, 1950, to February 19, 1951; 1,000,302 man-hours; continuing.

The B. F. Goodrich Chemical Co.

Port Neches, Tex.—October 24, 1949, to January 1, 1951; 1,070,338 man-hours.

Imperial Glass Corp.

Bellaire, Ohio—February 27, 1946, to February 28, 1951; 260,554 man-hours; continuing.

Kroehler Manufacturing Co.

Plant No. 3, Kankakee, Ill.—December 5, 1949, to February 14, 1951; 1,012,591 man-hours; continuing.

Long Island Lighting Co.

Electric Generating Station, Northport, N. Y.—December 1945 to January 1, 1951; 25 employees; 290,000 man-hours; continuing.

Far Rockaway Electric Plant—February 1949 to January 1, 1951; 350,000 man-hours; continuing.

Port Jefferson Plant—22 months; 310,000 man-hours; continuing.

North American Aviation, Inc.

Los Angeles Plant—December 11, 1950, to February 16, 1951; 5,932,234 man-hours.

Downey Plant—October 4, 1950, to February 14, 1951; 3,274,965 man-hours.

Long Beach Plant—November 24, 1950, to March 4, 1951; 1,047,357 man-hours; continuing.

Schenley Distillers, Inc.

Chess & Wymond Barrel Plant, Louisville, Ky.—April 2, 1949, to January 31, 1951; 945,454 man-hours.

United States Dept. of Agriculture

Forest Service, Lufkin, Tex.—December 1948 through December 1950; 640,000 man-hours.

HERE'S HOW TO PREVENT COSTLY FALLING ACCIDENTS

37 Falling Accidents Every Hour*

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

This revolutionary ABRASIVE Floor Plate makes it possible for you to give your workmen the best non-slip protection against costly falling accidents.

A. W. ALGRIP is made by rolling abrasive grain, the same type used in grinding wheels, uniformly as an integral part of the upper portion of steel plate. Result: A floor plate that's non-slip even on steep inclines. ALGRIP requires no maintenance attention and wear exposes new abrasive particles so it keeps its gripping qualities. Wet or dry ALGRIP is non-slip. It's easy to keep clean and can be cut and installed overnight.

Architects, engineers, designers and safety engineers are specifying A. W. ALGRIP for industrial and commercial applications. Get complete information about this revolutionary ABRASIVE Floor Plate now. Write for booklet B-13.

THERE'S NEVER A SLIP

ON A. W. ALGRIP.

ALGRIP installed in elevators and on stairs keeps passengers safe from slipping accidents.

ALGRIP is ideal for installation on engine and boiler room floors.

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

125 YEARS OF IRON AND STEEL MAKING EXPERIENCE

Gentlemen:

Please send me your 8-page information-packed booklet B-13.

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Other Products: PERMACLAD Stainless Clad Steel • A.W. SUPER DIAMOND Floor Plate • Plates • Sheets • Strip • Alloy and Special Grades

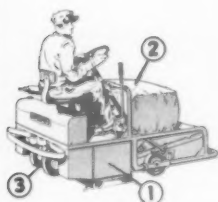
*17% of the 222 occupational injuries which occur every hour are due to falls. Source: National Safety Council's 1949 edition of Accident Facts.

Tennant Power Sweeper...



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Name

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Company

United States Steel Co.

Gary Sheet and Tin Mill—January 16, 1951, to February 14, 1951; 1,290,000 man-hours.

Vandergrift Plant, Irvin Works, Maintenance Dept.—October 28, 1949, to February 8, 1951; 1,600,000 man-hours.

National Tube Co., Ellwood Works—January 29, 1950, to February 18, 1951; 6,743,644 man-hours. This establishes a new record for the steel industry.

The

President's Medal

Awards made by the National Safety Council for resuscitation by the Pressure Method

GEORGE DECKER, line foreman, Kansas Power & Light Co., Abilene, Kans.—electric shock.

C. L. MOCK, mechanic-repairman, the Texas Company, Rangely, Colo.—paralysis of respiration due to blow.

E. J. CHAMBERS, oil pumper, Shell Oil Co., Hoisington, Kan.—asphyxiation.

LUC R. LAMBERT, lineman, Southern Canada Power Co., Ltd., Eastman, Quebec — drowning.

WILLIAM CALVERT and NEAL MAHONEY, Meadville, Mont. — drowning.

ORFU J. WATTERS, electrician, West Penn Power Co., New Kensington, Pa.—drowning.

HOMER J. PARHAM, electrical maintenance mechanic, Public Service Company of Indiana, Inc., West Terre Haute, Ind.—electric shock.

ROBERT W. McDONALD, electrician, Bonneville Power Administration, Portland, Ore.—electric shock. Certificate of Assistance to FREDERICK B. LOWRANCE.

ERNEST J. SKALA, painter, Bonneville Power Administration, Portland, Ore.—electric shock.

MRS. CHESTER H. OLSON, housewife, Cuba, New Mexico—drowning.

LESLIE E. RABORG, police patrolman, Richmond Police Department, Richmond, Va.—drowning.

GILBERT M. CLOYES, insideman, New York Telephone Co., Rome, N. Y.—gas asphyxiation.

BERT E. BADGEROW, lead station agent, United Air Lines, Boise, Idaho—drowning.

LESTER KIKER, coal miner, Alabama Power Co., Gorgas, Ala.—electric shock. Certificate of Assistance to IRA VICTOR CHUNN.

ARTHUR O. ROMPREY, SR., hydro plant chief operator, Green Mountain Power Corp., Vergennes, Vt.—drowning.

Personnel Conferences to Be Held in Britain

Three conferences on the general subject "People at Work" are scheduled to take place during the Festival of Britain this year. All sessions will be held at Keble College, Oxford. The first conference will be held Saturday to Wednesday, June 30 to July 4; the second, Thursday to Monday, July 5 to 9, and the third, Tuesday to Saturday, July 10 to 14.

All three conferences will have the same program, although different speakers will participate.

The organizations sponsoring the conference are the Industrial Welfare Society, The Royal Society for the Prevention of Accidents, and the National Institute of Industrial Psychology.

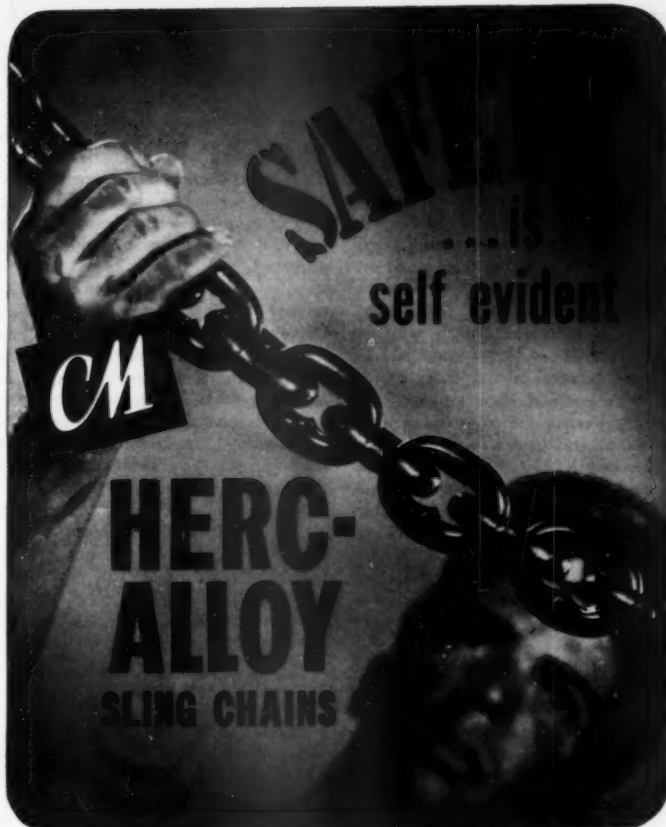
The secretary of the Festival Year conference is Miss M. D. Reed, Robert Hyde House, 48, Bryanston Square, London, W 1.

Reducing Radioactivity in Contaminated Liquids

A simple, inexpensive process for decontaminating liquids—part of the problem of waste disposal in laboratories using radioactive materials—has been developed by scientists R. A. Lauderdale, Jr. and A. H. Emmons at the Oak Ridge National Laboratory.

In the process, liquid contaminated by nuclear fission products or other radioisotopes is passed through a column or series of columns containing a filter arrangement of steel wool, clay, activated carbon, an anion exchange and a cation exchange resin.

An interim development report of the inventors is available on request to the Director, Oak Ridge National Laboratory, Post Office Box P, Oak Ridge, Tenn.



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Electrical Safety

(From page 29)

cluded that the shock hazard from casual contact with energized parts has to be reduced, but it is concluded that electric shock hazards cannot be completely eliminated. Means of reducing the hazard are receiving continuous study on an individual item basis, but it is believed that this hazard must be accepted as one of the risks of experimental laboratories.

In contrast, the let-go or freezing hazard due to grasping energized conductors, especially bare terminals, must be eliminated. Insulation of all terminals which might be grasped presents a formidable but not an insurmountable task.

Short-circuit hazards and hazards due to electric arcs must be eliminated as far as practicable. In the control of these hazards a distinction is made between switches which may be closed against short circuits, and those which are used to interrupt or bypass load currents only. The shock hazards from exposed switches designed to interrupt or bypass normal load currents, such as ammeter cut-out switches, knife, dial, or fan switches on rheostats and resistor loading devices, etc., are considered one of the normal hazards of laboratory instruction.

In contrast, devices which may be closed against short-circuits must be given very careful consideration. All open-knife switches which might be used for this purpose must be replaced with enclosed externally operable types. Circuit breakers must be trip-free, have adequate interrupting capacity, and the exposed arcing contacts of portable air-circuit breakers which are used at eye level or below, must be equipped with hoods or arc chutes to protect against the heat of the arc and harmful radiations. Protection against arc hazards must also be provided on switches used to break highly inductive circuits, including ordinary knife switches often used for field switches.

Overspeed and exposed couplings are generally recognized as the most serious mechanical hazards of rotating electrical machinery. All d-c machines should be protected against overspeed by some speed-sensitive device arranged to give positive protection. Couplings should be smooth and free from projecting parts or provided with permanent guards. Many accidents may be prevented by tidy work habits. Good housekeeping, such as keeping unused leads properly racked, tools in their proper places, reporting defective tools or equipment, and arranging equipment and leads to permit access without danger of tripping or stumbling will eliminate many hazards.

Space limitations preclude comprehensive presentation of all corrective measures, but discussion of a few items may indicate acceptable solutions in one or two selected instances. The junior and senior laboratory switchboards are shown in Figures 1 and 2 respectively. This type of switchboard is familiar as the general layout has been used in experimental laboratories for years; however, one or two points deserve mention. All power sources are protected with plastic encased air-circuit breakers having both thermal and instantane-

ous magnetic trip mechanisms.

The maximum voltage is 480 volts, which is available to the instructor for driving prime movers, but outlet receptacles not in use are blanked out with insulated plugs to prevent accidental use of this voltage. The maximum voltages of the other source outlets are 240 volts a.c. and 250 volts d.c. Although the switchboard and associated accessories have been approved as complying with the State safety requirements, a person could, by deliberate act, contact either the energized part of a receptacle which is recessed $\frac{1}{4}$ inch inside its bakelite cup insulator, or he could contact the tip of a 100-ampere plug lead while the other end was energized.

This hazard, although considered of minor importance, determined the choice of ebony asbestos rather than steel for the panels containing the receptacles and a rubber mat is provided in front of the switchboard to reduce the proximity of grounded objects which might form a return circuit. Another advantage of insulated panels is that the tip of an energized plug accidentally striking the panel cannot deface the surface due to arcing, except at the holding bolts.

Figure 3 shows the 100-ampere tapered plug with its self-protecting spring-operated insulating sleeve in two extreme positions. In addition to practically eliminating the freezing hazard, which is the objection to the unprotected plug, the sleeve confines the arc and its expulsion action materially assists in extinguishing an arc when errors in plugging occur. Construction details of the plug and a knob binding post are shown in Figure 4.

Figure 5 is a photograph of one of the distribution panels which are spaced at convenient intervals throughout the laboratory. The knob binding posts accommodate several different types of leads simultaneously. During normal conditions ordinary wire is not used for leads in instructional laboratories, however, the grooves in the brass locknuts accommo-

TABLE I
Hazards in Experimental Electrical Laboratories

Electric Shock Hazard Due to Casual Contact
Let-go Hazard Due to Gripping Contact
Short-Circuit Hazards
a. Circuit opening devices—interrupting capacity
b. Circuit closing devices—trip free action, and sputtering of molten metal
Arc Hazards
a. Harmful radiations
b. High temperature
Mechanical Hazards
a. Overspeed
b. Exposed couplings
c. Tripping over leads or equipment
d. Defective tools or equipment, or improper use of them.

date wires up to about No. 6, and permit rapid expansion of leads during periods of heavy enrollment, such as occurred shortly after the close of the war. It is often expedient to use rubber covered wire for leads in research laboratories, and for parts of circuits which are to be left wired up for extended periods.

The hazards of control equipment have been given serious concern for several years. See Figure 6 for an example of a typical experiment setup. This equipment may be both live-front and live-back as many measurements and adjustments are necessary, and some of the work must be done while the apparatus is energized. The devices are used for senior and graduate instruction, and the maximum voltage is 240 volts a.c. or 250 volts d.c. Although the freezing hazard should not be serious, the shock hazard due to casual contact is high. Either instruction in this important class of equipment should be deleted from the curricula, or the hazards should be recognized and accepted.

It is our belief that instruction in this field should be offered with perhaps even greater emphasis than in the past because of the increasing importance of this class of apparatus and that the hazards be accepted as a calculated risk of instruction. Additional study is being given to the problem of achieving the maximum degree of safety without serious impairment of instructional values. As a matter of fact, with the exception of one or two minor electric burns, no student accidents requiring medical attention have occurred in any of the electrical engineering laboratories at the University of California during the service of the senior staff member, a period of over 30 years.

The foregoing represents but a start on the problem. The battle of safety can be won only by cooperative efforts of both users and manufacturers of laboratory apparatus, instruments and devices. In Figure 7 are shown recently acquired commercial equipment and instruments equipped with brass binding posts, each of which is to be replaced with insulated binding posts to eliminate as far as practicable the freezing hazard due

Let's Make the Most of Our Productive Might

THE productive might that has given America the most fruitful peace-time economy in history—the productive might that has backed to a victorious limit in two twentieth-century wars the fighting men who inevitably are our first line of defense—is facing an even greater test. It must not—it cannot be wasted!

The era of fighting and winning wars, and settling back during interims to "business as usual," is past. When it passed, how it passed, doesn't matter. What does matter is that from here on in, perhaps, there'll be no more "indolent" years—no more building of bathtubs to the exclusion of battleships; no more butter at the expense of bombs.

But America's unmatched productive might is fully capable of building bathtubs and battleships, of providing butter and the bombs requisite to war or to prevention of war; capable, that is, if properly employed—if none of it is wasted.

More And Better Tools Needed

THIS means that the manpower and womanpower left to industry after military needs have been satisfied, must be given every cost-cutting tool, every time-, labor- and muscle-saving aid known to man. It means that these tools must be employed intelligently and efficiently.

At the Fourth National Materials Handling Exposition,* to be held in the International Amphitheater in Chicago, April 30—May 4, 1951, the CLARK EQUIPMENT COMPANY'S INDUSTRIAL TRUCK DIVISION, along with several hundred other producers of materials-handling equipment, will show to industry the newest, the most efficient and the most effective tools in the world for making the most of America's productive might. It is a show that no industrial executive can afford to miss—it is the MUST of the Industrial Show year. It is a MUST not only from the point of economy and profits within your own operation—but also from the point of accomplishing the vast production necessary to the new Military Economy without imposing harsh austerity on the Civilian Economy.

More Power For Manpower—In Action

CLARK will show and demonstrate its full LEADERSHIP LINE of fork-lift trucks, powered hand trucks and industrial towing tractors. Among them will be several machines never before shown—some of them not yet in production. The exhibit also will present special handling attachments of proved worth, and demonstrations of their rich usefulness.

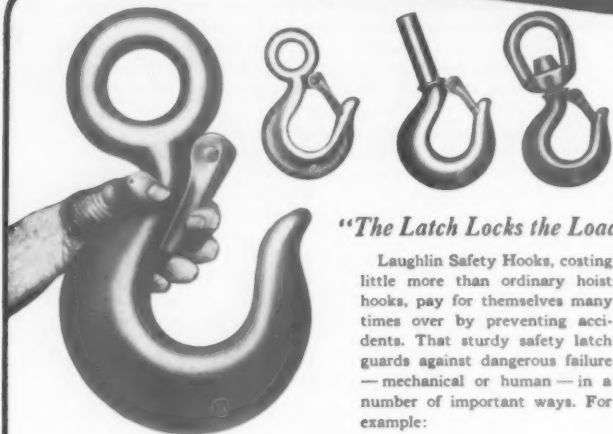
By all means attend and study this tremendously important show. And make a special point of seeing the CLARK exhibits and demonstrations of the best machines in their field for giving MORE POWER to MANPOWER.

(*We'll be glad to supply registration—admission tickets. Just address your request to the Clark Equipment Co., Industrial Truck Division, Battle Creek 147, Michigan, telling us how many you want.)

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Laughlin Safety Hooks, costing little more than ordinary hoist hooks, pay for themselves many times over by preventing accidents. That sturdy safety latch guards against dangerous failure — mechanical or human — in a number of important ways. For example:

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to accidental contact while "hot." Several of the devices have insufficient spacing between energized parts; for example, the terminal board at the extreme right hand side of the figure was removed from a 480/240 volt motor, and the clearances fail to comply with the requirements of the National Electrical Code.

As previously stated, corrective measures are being taken on an item-to-item basis, and it is anticipated that the level of safety will eventually be raised to an acceptable standard. It is obvious that much of this needless expense would be avoided if the manufacturers would incorporate more safety in the design of their equipment.

Safety Suggestions for Workers in Experimental Electrical Laboratories

A person's reputation may be seriously injured if his lack of foresight results in accidents to himself or others.

Haste causes many accidents. Work deliberately and carefully. Check your work as you go along.

Determine positively whether the circuit is "hot" or "cold" before starting work.

Never touch an energized conductor with hands wet with water, perspiration or chemicals. Never touch an energized conductor when your shoes are wet, when standing in water, on the ground, or on grounded objects.

When working on energized equipment, make a practice of always having an assistant within sight or calling distance.

All power circuits are dangerous. Do not work with voltages higher than 250 volts without taking extra precautions such as the use of rubber gloves, rubber mats and tools with insulated handles.

When working on electrical apparatus which is "hot," use only one hand as far as practicable. Keep the other off all grounded objects.

Do not start to work on a high-voltage circuit until you have made certain that both the oil circuit breaker and the disconnect switches are open. Place warning signs on all switches that might be used to energize the circuit. Bond all line conductors together and connect them to good grounds placed between possible energy sources and the work location.

Never close a switch slowly or hesitatingly; close it quickly and positively.

Cultivate the habit of turning your face away when opening or closing switches or air-circuit breakers. Do not avert your face and then grope for the switch or circuit breaker. Use extreme care when breaking highly inductive circuits, as dangerously high voltages are likely to result.

Remember that burns from arcs may be very severe. Guard against arcs as well as high voltage.

Avoid the possibility of exposing your eyes to electric arcs, as they are powerful generators of ultraviolet light, including wave lengths which may cause serious and painful injury to the eyes, even with short exposures.

Be careful to keep watch chains, finger rings, wrist watches, flashlights, metallic and metal bound measuring rulers, and metallic pencils out of contact with energized circuits.

Do not use wires with poor insulation. Make sure that all splices and connections are securely made and properly insulated.

Do not, under any circumstances, open the secondary of a current transformer while under load. Current transformer secondary circuits must be worked with the secondary short-circuited. (Conversely, potential transformer secondary circuits must be worked open-circuited.)

Be careful to avoid the capacitance effects of transformer cases and other high-voltage apparatus. The frame of every high-voltage machine should be grounded. All conducting objects whose potential is not definitely fixed should be solidly grounded when in the vicinity of high-voltage circuits.

All capacitors should be discharged before working on associated circuits. The charge disappears from condensers slowly, and interruption of the power supply should be followed by short-circuiting each capacitor before the equipment is considered safe.

Make all connections on the load side first, leaving source connections to the last.

Check all connections before energizing the circuit.

If smoke, fire or heat gives evidence of improper connections or short circuit, open the source switch before attempting to make corrections.

Do not take chances. If you are not certain of the proper procedure ask your superior for proper instructions.

Winners in Contractor's Contest

Winners in the 1950 accident prevention contest sponsored by the Constructors Association of Western Pennsylvania for heavy and highway contractors have been announced by Carl J. Jacobsen, chairman of the association's accident prevention committee.

Winner in Division I, for large companies, was the Contracting Division of Dravo Corp., Pittsburgh. In Division II the winner was Beaver Asphalt Paving and Construction Company, New Brighton.

A contest for superintendents and foremen of competing companies was won by D. P. Childress of Dravo and William Holliam Hollinback of Beaver Asphalt.



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Throughout the process and manufacturing industries the New Multi-Clean Method has proven to these men they can now get better service and greater safety with added beauty and longer life from concrete flooring.

The Multi-Clean Method Fortifies These Floors against abrasion and the devastating effects of excessive water, grease, oils, alkali, soap and other chemicals, which formerly caused deterioration of the concrete in a short time.

Multi-Clean Concrete Preserver Provides a Tough, Sanitary Finish in a choice of five colors and neutral. It penetrates the pores, leaving a very thin surface film that is bound into the concrete. It does not chip or flake and worn spots are easily touched up without showing laps. It also provides an excellent base for Multi-Clean Anti-Slip Waterproof Floor Wax, which produces an attractive, long-lasting, resilient finish and affords easier floor cleaning.

How the Multi-Clean Method Applies to Concrete Floors, New or Old

Whether you have a new concrete floor or are refinishing an old one, the Multi-Clean Method is fast and economical. After the floor is properly etched and dried, two coats of Multi-Clean Concrete Floor Preserver are applied, allowing 8 to 16 hours between coats. If wax is applied it is buffed in with the Multi-Clean All-purpose Floor Machine and the floor is ready for service.

The Multi-Clean Method reduces maintenance time because sweeping is easier and more effective. Wet moppings become less frequent, but when they are necessary, heavy soilage comes up quickly and with very little effort. When preparing floors for application of Multi-Clean floor finishes,

the floor machine is used as an effective floor scrubber. The Multi-Clean high performance Vacuum, companion tool to the floor machine is used as a quick and easy way for wet or dry pick-up of dust, dirt or scrubbing solution.

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It is a carefully planned, thoroughly tested and proved procedure developed by floor specialists. It combines the use of the right chemicals and equipment with the proper application for all types of floors.

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Committee on Plant Tour



Watching the process of upset welding of an anchor block to the brake-backing plate of a brake assembly for a Studebaker Commander are members of the executive committee of the Automotive and Machine Shop Section of the National Safety Council at a recent meeting in St. Louis. The picture was taken in the plant of Wagner Electric Corporation and their host is Edward G. Holtzman, manager of the corporation's safety and medical service.

From left to right in the group are: Fred G. Yelton, Delco-Remy Division, General Motors, Anderson, Ind.; W. J. Walls, Burroughs Adding Machine Company, Detroit; G. A. Snyder, Allis-Chalmers Manufacturing Company, La Porte, Ind.; Mr. Holtzman (in the background); Arnold J. Shilk, McCord Corp., Detroit; Arthur S. Kelly, NSC staff representative; John Liskew, American Air Filter Company, Louisville.

Safety and Health Team

(From page 37)

ception rather than the rule when a large plant can boast of its health and safety. (None of us should ever boast, for surely as we do, the record is shattered.)

Let's get back to this small plant with only a single nurse to worry out a health and safety program. In addition to the administration of her section, the incidental nursing care, and some kind or type of health education, too often rudimentary, this nurse must carry on in many instances whatever safety program prevails. It is regretted that many of the smaller plants have no qualified safety director, but I am happy to note that the majority do have health and safety committees. The latter should be a "must" and, in addition, should be a going, appreciated organization with the doctor or nurse on the committee as a member or consultant. Please note the name of this committee—health and safety. It considers not only safe practices, but hygiene, sanitation and general health.

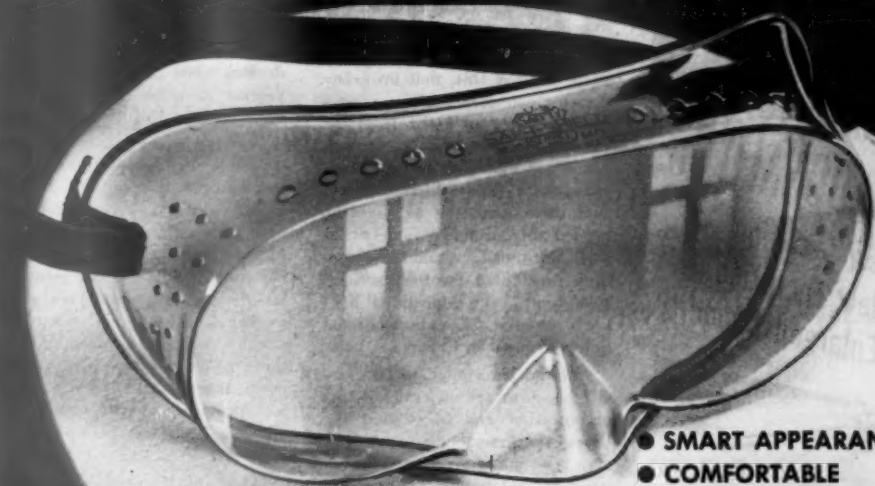
Please do not misunderstand me.

I am not condemning nursing service around-the-clock, the full-time physician, or the medical service of the larger plants. I am only stating my opinion as to which nurse has the greatest possibilities in reaching an ideal health and safety program. Every member of the team, regardless of his or her assignment, can do much toward the improvement of any health and safety program.

A good medical service pays dividends and so does a good safety engineer, even in the smallest plants. As a rule, good safety men are a tough breed. They have to be, for their's, too often, is a thankless task. They are caught between the millstones of speed production and safe practice. This toughness is not of the heart but of the epidermis. The first quality of a safety man is to be thick-skinned.

Someone once said that if safety men should ever choose a patron saint, they might consider Abraham Lincoln. Without knowing it, he established their creed when he said, "I'll do the best I know how—the very best I can; and I mean to keep doing so until the

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Berylco Safety Tools are sold exclusively through jobbers; write for the name of the one nearest you. Rely on him as you would on a department in your own plant. He's ready at all times to give you prompt service.

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end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference."

Let me say this, that no safety director can ever reach a perfect score without an assist from the medical service. So won't you please see that your nurse is provided with safety literature and such other assistance as might be needed to maintain a safety-conscious attitude. I would like to put in a word here for the excellent safety and health educational matter being issued from the National Safety Council in Chicago.

A large percentage of progressive concerns are members of this organization and all should be. Often when membership does not exist, the material never gets beyond the safety director and the nurse must continue to learn the hard way. Every individual nurse should read *NATIONAL SAFETY News* and the *Industrial Nursing Newsletter*. Both are published monthly.

I have saved the physician for the last. Not because he is less important, for there is no such ranking in my scheme of operation. In the large majority of plants where medical service is established, the plant physician is either on a part-time retainer basis or listed on call. Neither type of physician has the time to do much more than pre-employment physical examinations, first aid, and the practices of curative medicine to a lesser degree.

Research shows that the professional man still does not reach the employee, and to have any semblance of industrial medicine in the plant, further advances along this line are necessary. First of all, the physician who is responsible for employee health must make periodic visits to the working sections of the plant if he is to advise properly on the placement of new employees, know of existing hazards, and especially if he is to make recommendations concerning sanitation and safety. The doctor passing through the plant becomes recognized by the employee who seems ill and worried. When

he is known, the employee may stop him on his rounds to discuss briefly a health or safety problem. These worries of the employee are hazards in themselves and may be the cause of future accidents. The doctors must practice more preventive medicine if they are to carry their end of the triangle.

Through every possible means we are trying to keep the employee well and safe from injury. That is a big order and one that apparently will require our undivided attention from now on. We are already dipping into the labor barrel to reach the marginal worker — the women, the older workers and the disabled. All of these people can help in the major production effort and do a good job, providing they are carefully selected, properly placed where they are not a hazard to themselves or others, and then maintained in a healthy status.

It is just like the purchase of an old used machine. If properly prepared and then maintained satisfactorily, it still can show a good output. We are the ones who can advise management along these lines and we must do so early and often. Management's first thought is naturally production, but management is intelligent and if the health of the individual worker is sufficiently stressed, results should be forthcoming. Production is obtained in direct proportion to the health of the employee.

Before closing, I would like to touch briefly upon two topics of national interest in industrial medicine: (1) Conditioning for retirement, and (2) Our place in Civilian Defense.

We as a nation are gradually realizing that people are living longer and that with this lengthening life span, many new problems arise. The aging of our people poses many social and economic problems, as well as physical, and, unfortunately, this situation has long been taken for granted and not recognized as a problem. We take it in our stride and make adjustments accordingly. A rich old age is not just the fortune of luck. Neither is it accidental. It is the result of wise planning and individual effort. Unfortunately, few prepare themselves adequately.



***"...\$26,500,000 worth
of U.S. Savings Bonds a year
under company
Payroll Savings Plan..."***

CHARLES E. WILSON

"General Electric employees are buying more than \$26,500,000 worth of U. S. Savings Bonds a year under company payroll savings plans. Since the inception of our savings plans in 1917, General Electric employees have saved \$445,000,000 of which \$280,000,000 consisted of the purchase of United States Savings Bonds since May, 1941. The record speaks for itself."

The record of General Electric Company, and the records of more than 21,000 other large companies, prove that employees *want* to save the easy, automatic way—the Payroll Savings Plan.

As of November 1, 1950, more than 8,000,000 employees were buying U. S. Savings Bonds *every month*. While the figure was impressive, it was not as large as it should have been—a fact recognized by many companies.

In November and December, top executives of literally thousands of large companies (employing one hundred or more) decided to check their Payroll Savings Plan and endeavor to increase participation to 60% or more.

Here are a few December reports: in one of the larger units of a leading steel corporation, participation went from 20% to 80.6 per cent . . . a well-known independent steel company (13,710 employees) reported 82% participation . . . another large steel company (100,000 employees), 75% participation . . . one plant of a large rubber

corporation climbed to 94% (company average, all plants, 70%—and still going up). Tabulation of all companies exceeding 60% participation in December would literally fill this page.

Higher participation in the Payroll Savings Plan is good for the men and women for whom it builds security. It is good for the company because a saving employee is a better workman, a better citizen. It is good for the country because the month after month purchase of U. S. Savings Bonds by millions of Americans is a most effective check on inflationary tendencies.

Phone, write or wire, now, to Savings Bond Division, U. S. Treasury Department, Suite 700, Washington Building, Washington, D.C. Your State Director has a simple, four-point promotion plan, concluding with a person to person canvass that puts a Payroll Savings Application Blank in the hands of every employee. That's all you have to do—and you'll be surprised at the response from employees who *want* to save.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

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to Dept. B for free bulletin showing how you can eliminate slippery conditions and improve plant efficiency.



Medical science and constant improvements in our standard of living have extended the life span of the average American. The chances of survival to a ripe old age have increased, but, unhappily, our ability to control the conditions which disable has not kept pace. This gift of longer life should mean extension of a healthy, useful career, not just addition of years to one's life span.

We should recognize the fact that older people can be assets to our society and to its economy. Their vast experience and knowledge should not be lost, but should be nourished and bred into our advancing civilization. The best antidote against senile decay is an active interest in human affairs.

What is needed is a change in attitude toward the aged, an increase in knowledge of their problems and difficulties, a thorough sympathy and vigorous action in their behalf. These recommendations are made to assist the willing, cooperating employee in preparing himself for eventual retirement.

1. That special recognition be given

all employees during their last five years of employment prior to retirement.

2. That each employee reaching 60 years of age be given a complete and thorough physical examination by the company with a yearly recheck thereafter.

3. That the employee be advised of the results of his physical examination in his own language, and corrective measures recommended.

4. That a follow-up be instituted to assure the employee's understanding his rights under group insurance for corrective surgery and further laboratory or diagnostic tests.

5. That a health educational program with the employee be instituted so as to maintain his physical and mental capacity beyond retirement.

6. That periodic group meetings be held to develop hobbies, outside interests and civilian contacts as well as prepare the employee for his new form of life. They might well include educational programs such as:

- Early preparation for economic security;
- Development of secondary skills of vocational value;
- Maintenance of physical and mental health;
- Personal adjustment to a changing body and mind;
- Active membership in group activities other than family;
- Recreational satisfaction and leisure-time activities;

Live Model Adds Interest



The jackass theme has been a perennial favorite since the beginning of organized safety work but the ground safety organization at Albrook Air Force Base, Canal Zone, boosted its attention value with a live model. The display was used outside the Albrook Theater on a recent Saturday morning after the showing of a safety film, "Last Date," released by Lumberman's Mutual Casualty Company.

FIRST THOUGHT FOR FIRST AID

Vaseline Sterile Petrolatum Gauze Dressings

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Professional Products Division

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For immediate and easy application, to dress a Burn, an Abrasion, certain other Surface Injuries.

ready-made . . . compact . . .
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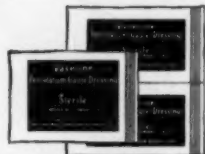
To Open

foil-envelope, cut with scissors along dotted line on back of envelope... or in an emergency, tear off seal carefully below this line... end of dressing is pulled out of envelope with one hand (use forceps, if handy), while envelope is held with other hand.



Cover

damaged surface and area two inches beyond with two layers or more of petrolatum gauze dressing... then apply sterile dry bandage to keep clean and hold gently in place—using first-aid principles... have injury examined by a physician.



Two Sizes:

Unit envelope: one 3" x 36" dressing.
Duplex envelope: two 3" x 18" dressings.
Six envelopes to the illustrated carton.

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Write Con-Sol technicians without obligation, about any specific health hazard or unusual condition in your plant. Many years of experience and over a hundred industrial housekeeping products are available to solve your every maintenance need.

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Chart On Request



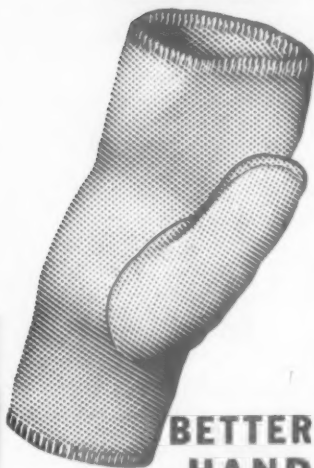
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by Underwriters Laboratories

Skidproof gives any type of floor—wood, linoleum, rubber, asphalt, tile or terrazzo—a hard, durable slip-proof surface that protects against the toughest kind of wear. It's easy to apply, easy to clean. It's quick-drying, odorless, economical—one gallon covers 2000 square feet!

Skidproof overcomes the slipping hazards of ordinary wax—makes rubber burns, stains and surface damage easy to get off—won't crack or check—won't discolor any floor surface. It's the finest surface finish available to keep floors shining, beautiful and safe!



"WOVEN-Gards"



BETTER HAND PROTECTION at amazing low cost

"Woven-Gards" are hand protectors, mitts, pads and sleeves made of a new long wearing safety material. They provide flexibility, comfort, resistance to abrasion and cutting far beyond that of anything used before. They are extremely oil-absorbent and do an excellent job when handling oily, slippery sheets. The porous weave makes them one of the finest protectors for handling lower temperatures. Enthusiastic users say they have never seen values like "Woven-Gards." Excellent protection at lowest cost. Send now for descriptive folder and prices.

Industrial Gloves Co.

A Corporation

1736 Garfield St., Danville, Ill.
(In Canada: Safety Supply Co., Toronto)



- g. Social participation and civic responsibility;
- h. Religion.

As for our place in the Civilian Defense program, I can sum it up briefly: "Production must go on." Naturally we must coordinate our planning with the supervising forces, but if we are to win out in the long run, we must clear away the debris and get back to work as rapidly as possible. First aid, sanitation and hygiene will be our means of aiding.

We all have a job to do. Not only must we be our brother's keeper and keep him safe and well on the job, but we must go even further and protect him off the job by an adequate health program.

There is no royal road to safety or health. No one can make mystic passes over a crystal ball and remove the curse of illness and injury. It takes real planning, live interest, cooperation and work.

It's a Human Problem

(From page 19)

equipment that is being installed elsewhere in the plant—how it will affect their jobs, how it will improve the quality of a product, what benefit it will be to the public. Maybe there will be some questions on company policy, finances or other activities.

Can there be any doubt that once this intimate daily association is established, both the men and the supervisors will find a new interest and new purpose in their jobs?

In this mass-production day and age, the industrial world is rapidly becoming the whole world, not only for those who work in industry, but also for those affected by it—and that means everyone.

Furthermore, in this age of mass production, the very methods that make efficient production possible tend to deprive the worker of his sense of purpose. He tends to become just a cog, performing some simplified routine task without knowledge of the function of the organization as a whole or his importance to it.

Men can bear adversity and sorrow, but they cannot stand a loss of prestige or purpose. They must have a sense of belonging. They must know where they fit in the

scheme of things. They must maintain their self-respect.

We should start now to do what we can to give our people a sense of belonging. Let's give them an understanding of their part in the organization, and wherever possible, let's give them a part in decisions that affect them.

Men need the opportunity to be interested in their work to make their lives meaningful and satisfying. Seeing that workers appreciate the significance of their work and are interested in doing a better job is one of the responsibilities of management.

The beaten path may be the safest one, but it is not the only path to safety. A new approach and a new language are needed in safety and in all phases of industry's human relations. The great progress that is being made in industrial safety reflects the progress that is being made in new methods of management. And this in turn supports the belief that the interest of the worker in his work can be increased.

Without claiming inventorship,

See the big difference



1-inch Adhesive Compress

brings you all these features

LONGER . . . the longest made . . . 3 1/2" . . . fits around and overlaps big knuckles. Won't peel up on ends when hands get wet or sweaty!

*** NON-RAVEL PAD** . . . no loose threads in wound area . . . looks neat, stays neat!

OFF-CENTER OPENING . . . with turned-back tabs to protect sterile pad when soiled hands open it.

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Medical Supply Company

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I have advocated a management technique that from my own experience holds great promise. It consists of working closely with the individual employee through his supervisor on all matters relating to the job and the plant community. It seems like a simple, unspectacular—even obvious way of conducting plant operations, but in practice it requires much tact, patience and understanding.

The reward will be great for those who succeed.

I hope that other techniques will be developed, because the human problems created by our mass production society must be solved if that society is to survive.

It is management's responsibility to find and apply those solutions—solutions that will make America a safer, happier place to live.

G-M Plant Sets New Record

A new national record for heavy industry operation without a disabling injury has been set by Plant No. 3 of Electro-Motive Division of General Motors at Cleveland, Ohio. The plant which manufactures switching and road switcher type locomotives, worked 5,294,960 hours without a disabling injury. The record was set between May 9, 1949, and December 11, 1950, covering a calendar period of 588 days. The previous record, set in 1941 by the Wilmington, Del., plant of The Pullman Company, was 4,265,572 man-hours.

Work in the plant calls for continuous handling of heavy components of Diesel locomotives, such as underframes weighing more than 30 tons and 12-ton engines.

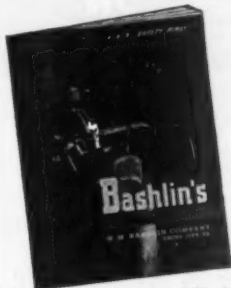
The record was recognized January 3 in a letter from Ned H. Dearborn, president of the National Safety Council, to B. A. Dollens, vice-president of General Motors and general manager of Electro-Motive Division. The record was celebrated by the employees, with ceremonies in the plant's assembly area on January 4. A National Safety flag was presented to the plant by David T. Mould, safety director for General Motors. The flag was accepted by Theodore F. Brown, oldest hourly rated employee in length of service, by Plant Manager A. G. Finigan.



**Famous Du Pont
PRO-TEK helps
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PROTECT YOUR WORKERS' hands with Du Pont PRO-TEK, the hand cream that acts like an invisible work glove. When rubbed on the hands and arms before starting work, it guards the skin against paint, grime and insoluble cutting oils. And it's easily washed off with water when the job is done . . . takes all the grime with it.

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Shock insulated—flexible fibre band absorbs shock—prevents "creeping" of chisel thru grip.

Holds any shape chisel and any size up to 1 inch—gives maximum visibility of working area.

Wing nut easily tightened with fingers—allows grip to be put on and off chisel quickly and easily.

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Of All the Sad Words...



Black crepe around the score board, a red light flashing instead of green, and the words, "record broken," told employees of The Hamilton Foundry and Machine Company, Hamilton, Ohio, that the 533-day no-injury record had come to an end on January 23, 1951.

The plant's best previous record was 225, established between July 30, 1946, and March 11, 1947.

He Learned About Safety from Dad

Safety lessons learned from his foster father and television shows enabled a 4½-year-old St. Louis boy to rescue his 6-year-old playmate from an ice-encrusted lake recently. The other boy had ventured out onto thin ice near the center of the lake and was submerged after he broke through and fell into the water.

Witnesses said the boy's quick action in throwing himself flat onto the ice in spread-eagle fashion, and lending a helping hand saved the other youth from panic and drowning.

The young hero, Charles John Smith of St. Louis, said he "learned all about safety" from his father, who is employed by the American Telephone and Telegraph Company. The elder Smith said his employees have a continuous safety program and the lessons he learns have been passed on to his son.

"He has seen some of the things I've told him demonstrated on television, too," the boy's father said, "and they've stuck with him."

Microfilm Safeguards Vital Records

Tiny sheets of 70 mm microfilm—about 4,150,000 of them—will provide Ford Motor Company's huge River Rouge plant in Dearborn, Mich., with top security for its records in the event of a bombing attack.

During the past two years, Ford has microfilmed more than 1,250,000 of its vital designs and engineering tracings which would be essential in putting the company back into operation in the event of a major disaster.

Ford is now making 70 mm microfilms of each of its important drawings of dies, gages, jigs and fixtures. It also is microfilming all old and current engineering drawings of its cars, trucks, and engines from the Model T to its 1951 models.

Negative copies of microfilms made so far have been placed in fireproof storage vaults in Dearborn while the positive copies are stored in bombproof underground vaults far removed from the Rouge. Thus, Ford will be assured that the machines to make its cars and trucks can be duplicated.

Under the direction of Harold T. Youngren, vice-president-engineering, Ford began the use of 70 mm microfilm in 1948. At that time, many of engineering's 1,000,000 tracings, 50,000 of which are considered active, were stored in basements and other out-of-the-way places. They were subject to loss by fire, flood or other damage, and were taking up some 4,000 square feet of much needed floor space.

At first 35 mm microfilm was tried, but it was found to be impractical to locate a specific drawing on film reels. Individual 35 mm frames, cut from the reel, were too small and separate mountings required a relatively large labor outlay.

The 70 mm film gives a negative 2.625 x 3.5 inches. Individual negatives will reproduce blueprints up to 37 x 50 inches while larger prints are covered in sections.

Individual 70 mm negatives, cut from the roll, are placed in 3 x 5-inch envelopes, each carrying pertinent information about the print. The envelopes are then filed ac-

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noon and night,
clean your glasses,
save your sight!

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INSTALL THESE SILICONE CLEANING STATIONS

COMBAT EYE STRAIN • Conveniently located throughout your office and plant, SIGHT SAVER cleaning stations leave no excuse for eye fatigue caused by dirty, grimy glasses. Silicone treated, SIGHT SAVER tissues clean, polish and protect eyeglasses; give added clarity and a longer lasting luster.

INCREASE PRODUCTIVITY • People work more rapidly and more accurately with greater safety and less eye strain when you promote eyeglass cleanliness.

THIS SAFETY MEASURE and MORALE BUILDER PAYS FOR ITSELF • SIGHT SAVERS reduce the time required to keep glasses clean; wipe away the best excuse men give for not wearing safety glasses; increase accuracy; decrease eye fatigue.

NO MUSS • NO FUSS • NO FLUID

Attractive all-metal SIGHT SAVER cleaning stations are easy to install... easy to service. Simply unlock and insert refill packet of SIGHT SAVER tissues about once a month. Fool-proof, permanently lubricated mechanism dispenses one 3" x 7" tissue at a time; each tissue exactly the right size; each tissue scientifically treated by Dow Corning, the world's first and largest producer of SILICONES and silicone treated tissues.

Sight Saver Cleaning Stations Available from Safety Supply Houses in All Principal Cities

Made by

DOW CORNING

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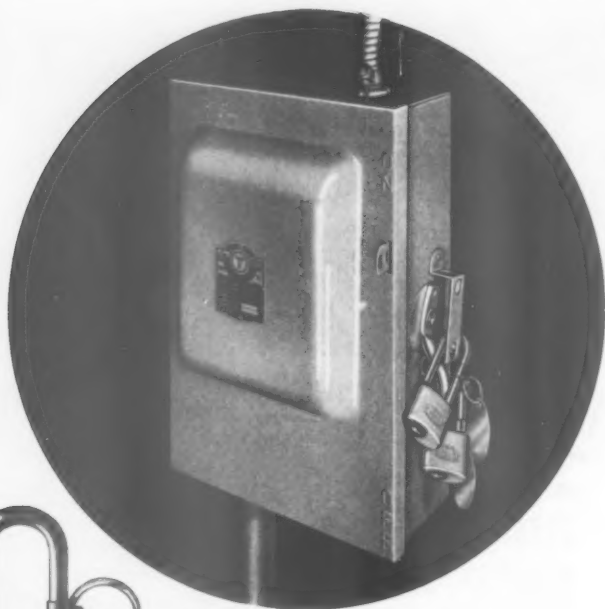
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Light weight, SAFE, uniform flexibility—even at -28° F.—strap remains soft and pliable; in 2 styles, No. 1498 with slide buckle, and No. 1499 (above) with tongue buckle. Made of NYLON FABRIC, 1 1/2" wide, 8 ply. Full cross section breaking strength over 3,000 lbs.; buckle hole strength over 600 lbs. SAFE to use until RED FLY appears. Complete unaided fabrication of strap in our plant. Write...

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There is no risk of a "forgotten man" when each electrical repairman, boiler cleaner, etc., locks out the switch or valve with his own Corbin Personal-Safety Padlock.

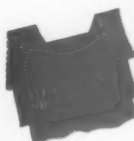
Corbin Personal-Safety Padlocks have disc tumbler mechanisms with 200 possible key changes. If desired, they can be furnished alike or master-keyed. A metal tag for employee's name or number is attached to the hardened-steel shackle.

We will gladly send you further information about Corbin locks for Personal-Safety systems or security systems — or we will help you work out such systems based on the specific needs of your plant.

CORBIN CABINET LOCK

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MAINTENANCE MEN AND SAFETY ENGINEERS agree on the many merits of JOHNSON'S RUBBER LADDER SHOES FOR SAFETY



Top shoes prevent
side slipping



Extension ladder
shoes



Step ladder shoes
are noiseless



For crutches
and canes

Order from your dealer or
JOHNSON LADDER SHOE CO., EAU CLAIRE, WIS.

SAVING LIFE IS OUR LIFE

cording to blueprint number. Ford engineering staff found its 1,000,000 tracings could be placed in 11 fireproof storage safes, at an annual saving in office space of \$21,000.

Another feature of 70 mm microfilm is that it is large enough for much information to be read directly from the film negative. Or by using a viewer, all facts may be obtained from the negative.

From the original microfilm negative an intermediate is blown up on transparent paper or linen. This enlargement then is processed by blueprinting or dry process machines in whatever quantities are desired.

This permits the original tracing to be used only for continuing design and is saving more than \$75,000 annually in retracing costs, for worn-out tracings. As changes are made in the original drawings, additional negatives are placed in the same envelope with the original microfilm and are available for tracing the history of the part and its changes.

Study Toys for Crippled Children

A research study of toys to determine their therapeutic and play use for crippled children has been initiated by the American Toy Institute in cooperation with the National Society for Crippled Children and Adults.

The continuing project, now in progress, is to study many handicaps of children in connection with the value of toys. To date, only cerebral palsied children are participating.

The aim of the study is to find toys particularly useful in working with crippled children and to find what specific purpose each toy is to serve.

Hundreds of different toys, furnished through the American Toy Institute by individual manufacturers, are being used in three areas of study selected by the National Society from their affiliated societies. They are: the Lenox Hill hospital in New York, the preschool center of Crippled Children and Adults of Rhode Island, and the cerebral palsy center of the Franklin County Society for Crip-

pled Children at Columbus, Ohio.

These centers were chosen because the varied types of treatment found there can give different emphasis to the study. Medical direction, trained staffs and sufficient children available for research also made these centers desirable.

This, briefly, is the method of observation followed in the first studies. A key list of the children, showing name, birth date, diagnosis and all other information available is prepared. Each child is given a key number to protect him from being discussed by name. Another list is made of the toys with a key number for each, making it unnecessary to write the name of the toy each time an observation is made. The toy also is identified on the listing.

Notations are then made of: the key number of the child using the toy, how he receives or rejects it, how he plays with it, his apparent interest in the toy and how he expresses this interest, what causes the child to stop using the toy, and whether he plays with it alone, with other children or adults.

The project has begun the grouping of toys in terms of their primary usefulness. For instance, certain toys for hemiplegics who are reluctant to bring the afflicted hand into action would be classified in order of their therapeutic value.

The participating centers will study which toys are useful in such therapy as stimulating a desired bilateral motion, finger strengthening, or motivating, walking or crawling. They hope to find toys that would help parents of crippled children carry out the directions of the therapist at home. Observations from the study are indicating the importance to the child of success or failure in the use of a toy.

The centers working on the project agree there are many toys which they had not known about but which they are finding useful. Planning the use of toys to meet individual needs has stimulated ingenuity in this preliminary work with cerebral palsied children and this is expected to help later in the study of toys in relation to other handicaps.

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all 5 superior features . . .**

- 1** Rigid one-piece construction—easy to install.
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It Kept on Rolling

(From page 38)

and conducted by the Accident Prevention Department of the State of Maryland. It taught fundamental accident prevention from the practical, proved standpoint, a point of view which we both needed.

Gradually we began to develop a set of simple, complete and practical forms to be used in investigating accidents, recording first-aid cases and plant safety inspections. Along with this, meetings were being held to educate the foremen and workers in safe practices and the importance of developing a safe attitude. Visual aids and other materials furnished by the National Safety Council were used extensively.

It has been our practice when holding employee meetings to shut the plants down "cold" and have every man present. These meetings are held in our change rooms or in a shop building that can be heated.

One of the important things we endeavor to do is keep the top level of management informed of what is going on. This is done by a series of reports. Each month a summary of accidents which require a doctor is sent to them. This details the accident and lists the recommendation of the Safety Committee to prevent a recurrence. Also the frequency and severity rates by plants are compared. Semi-annually, cost figures, including the cost per hundred dollars of payroll and the cost per hour of production, are furnished on each case. These reports are made as interesting and simple as possible.

All of these activities were pretty much of a common pattern. What we did to interest the men in working safely was really the stick in the punch, and perhaps it was there that we had the most fun as well as the best results.

Each spring we give a dinner for our foremen and safety committeemen. Although the main theme of the speaker for these program dinners was not exclusively safety, we called it the "Foremen's Safety Dinner" and always gave safety a plug. The

dinners are always attended by representatives from top management.

Representatives of the safety committees attend the regional safety conferences in Baltimore or Atlanta, get an idea of how much safety means to the other fellow, get a chance to see displays of the latest and best safety equipment, and generally profit and enjoy themselves.

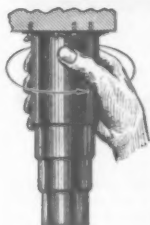
We have an incentive plan for this group which is built around the following idea. If the department goes 10,000 production hours without a disabling injury, then the safety committeeman for that department receives a pocket knife. The foreman is rewarded in a like manner. If the department goes an additional 20,000 hours a pocket watch is given, for 50,000 additional hours a belt is given and for 100,000 additional hours a pen and pencil set is given.

Because of our type of operations, immediate supervision is not practical and employees are more or less on their own a great

deal of the time. Keeping them interested in safety is a very important factor in our program. If the entire plant goes a month without a doctor's case we give each man a cigar which is in a cellophane tube reading, "Thanks, No Accidents Last Month." This costs us six cents per man. To add variety to this idea we are considering substituting a pack of chewing gum for the cigar and having the wrapper on the gum printed as above.

Three times a year we mimeograph and distribute to each employee what we call a "Safety Suggestion Calendar." This is similar to a calendar, except that for each day a slogan, such as "Save your toes, wear safety shoes," "Always have a mushroomed tool dressed," etc., is listed. On a given day the chairman of the Safety Committee will contact one of the men on the job and ask him if he knows the slogan for the day. If he does, he

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CUSTOM METAL CRAFTSMEN SINCE 1906

gives the employee a silver dollar. If the slogan is not known, then the next day the slogan is worth a dollar more until someone does know it.

We have found it is a rare occasion when the pot reaches more than \$3.00, which indicates to us that the men are keenly interested. At one of the plants we have several men who cannot read, but these men will ask someone to read them the slogan for the day when they report for work. Rarely does one of these men miss the

slogan after he has heard it.

We also conduct an inter-plant contest based on the best total frequency and severity score. If a man is required to see a doctor more than twice it is considered in the contest frequency score, although the standard severity scoring is used. It is amazing how much interest all of our men take in this contest from month to month. We present the trophy to the winning plant at the end of each year and each man is given a token item to show that he took

part in helping to win the trophy. This trophy is a plaque with engraved plates on it, making it usable for seven years. At the end of seven years the plant winning it the greatest number of times will keep it. We engrave on the plates the names of our safety committee and the scoring which caused them to win.

For the year 1950 we are giving each man a ball point pen, on which is printed "1950 Trophy Winners, Delta Plant." When this same plant won the trophy three years ago, an eversharp pencil was given to each man. Each of these items cost about \$1.65. Of course, we do not overlook the National Safety Council "No Accident" pins which are given each year to the men who did not have an accident requiring a doctor.

Our top management has always been interested in the further development of our safety program. Their attitude is that it is good business to spend time, money and effort to keep up interest and prevent the man from getting hurt, rather than try to repair him after

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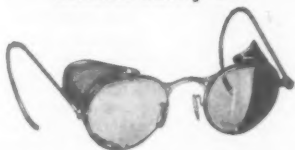
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The illustration shows No. 4002 with wire screen side shields. The No. 4000 are the same glasses but without the side shields.

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the accident. Our plant management has been very cooperative and has shown a sincere effort to comply with the safety program as it is formulated and carried out from the general office. The workers themselves seem happier because they know we are doing everything possible to guard the machinery, eliminate the hazards, and reward them for their safety efforts. Last year through the safety committees the men reported almost two hundred hazardous conditions, and as a result they were eliminated. Some of them required considerable time and expense to eliminate.

Our frequency in 1950 for all plants combined was 7.4 with a severity of .2. The national frequency for quarrying according to the latest figures is 17.4 and severity 4.0. As mentioned before, we are self-insured and our accident cost at those plants has been far, far below the manual rate for insurance coverage based on a ten year average.

In a news letter to all employees on last year's safety activity, one

member of our plant management said: "The safety program at our plant is definitely a part of our operation. More and better production is a day to day challenge. The same is true of accident prevention." That's how all of us in the Funkhouser Company feel about safety.

Irony! When you're important enough to take two hours for lunch, the doctor puts you on crackers and milk.

Cartoon Booklet on Tank Cleaning

Tank Talk, a new booklet written for men who enter and clean gasoline storage tanks, has been prepared by Du Pont's Petroleum Chemicals Division. The booklet concerns itself primarily with safe procedures for entering leaded gasoline storage tanks, particularly removal and disposal of sludge.

Based on the successful style set by many Armed Forces manuals in World War II, *Tank Talk* is

PROTECT EMPLOYEES

against

UNNECESSARY

HEAD

INJURY



Here, at last, is a light weight, plastic safety helmet, resistant to 3,000 volts of electricity, and by actual test, able to sustain 80 foot pounds under ball impact. What's more, the Paramount safety helmet is light as a feather—comfortable, waterproof, adjustable to head sizes (6½ to 8), and with enough clearance space between head and helmet crown to cushion and absorb intense impact. Genuine leather suspension band has long life and stands up under years of use.

For Use in Mines

A miner's lamp bracket, adaptable to every type of lamp, can be furnished either on helmet or cap. Being entirely a non-conductor of electricity, this is the safest miner's helmet available.

Winter Lining

For increased warmth, a two piece lining with a flannelette facing is provided. The lining is sanforized, warm, and is made in a full range of head sizes.

As the producers of millions of M1 Army helmet liners, the famous Cairns-Paramount Firemen's helmet, the Army, Navy and Civilian Air Corps crash helmet for jet pilots and other air corps personnel, the Army Quartermaster Tank Corps helmet, we are specialists in this field and offer you greater protection with lighter weight.

The Paramount helmet and cap are produced under one or more of these patents—No. 2,420-522, No. 2,423-076, and other patents are pending.



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1033 SERIES—1½" dia., hard glazed enamel, heavily gold plated pin and safety lock catch, \$9.00 doz. (plus Fed. tax).

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pocket size. Its cartoons tell a picture story which is amplified by text. The longer text is usually in the form of jingles.

The booklet supplements the excellent A.P.I. manual, *Cleaning Petroleum Storage Tanks, Section B—Gasoline Tanks*. The A.P.I. manual gives information of value to supervisors, foremen and others who are responsible for the safety of men and equipment when gasoline storage tanks are cleaned. *Tank Talk* gives that part of the necessary information for men who do the actual work.

Copies of *Tank Talk* may be obtained free from Petroleum Chemicals Division district offices or by writing directly to the Petroleum Chemicals Division, Du Pont Company, Wilmington, Del.

Paper Cups to Be Stockpiled Against Civilian Disaster

Secondary effects of an atomic attack, it is generally recognized, might well cause more disruption and damage than the initial blow. Miles away from the catastrophe, civilians will be not only dazed, but cut off from their ordinary sources of food, water, and shelter. In this emergency, thousands will have to be fed in hastily improvised quarters. Hospitals will have to feed thousands of casualties without extra help or facilities.

In past disasters, mass feeding has required the use of large numbers of one-use paper cups and containers which are the only means of distributing food where dishwashing facilities don't exist. During the last war, when the danger of enemy attack on civilian populations was much less than it probably would be in the event of another conflict, hospitals and institutions laid in supplies of paper service against emergency.

The need for paper cups and containers at the scene of a disaster and methods of assuring their availability in the face of military, hospital, and war plant feeding demands have been carefully considered by the paper cup industry since the outbreak of hostilities in Korea. Dale H. Eckerman, president of the Paper Cup & Container Institute, Inc., announced recently an industry-wide plan to set aside 25 million paper cups and con-



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tainers in strategically located warehouses throughout the United States for emergency use by civil defense authorities, Red Cross personnel, or public health officials.

The Institute will own the cups, but the plan is to see that the products are available when needed, and worry about payment later.

The cups and containers will be stored at between 12 and 15 points outside large cities, near enough to be easily accessible. Locations will be chosen in cooperation with civilian defense authorities.

Winners in Grain Elevator Contest

All eight plants operated by Van Dusen-Harrington Company in Minneapolis, as well as the company's plant in Omaha and the Globe Elevator in Duluth came through the 18th Annual Safety Contest conducted during 1950 by the Society of Grain Elevator Superintendents without a disabling injury, according to Herbert Straley, superintendent of the Port Authority Terminal Elevator in Brooklyn, N. Y., chairman of

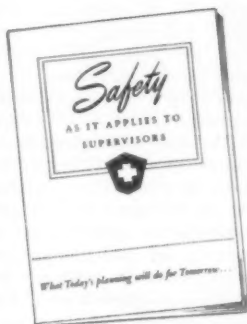
the association's safety contest.

Other winners in the contest were: Spencer, Kellogg Co., Chicago; Pillsbury Mills, Clinton, Ia.; Happy Mills of Continental Grain Co., E. St. Louis, Ill.; Uhlmann Elevator Co. of Texas (Katy and Rock Island Elevators), Ft. Worth; Quaker Oats Co., Akron; Russel-Miller Milling Co., Minneapolis; Superior Elevator Co., Port Arthur, Ontario; Archer-Daniels-Midland Co., Council Bluffs; Standard Milling Co. (Missouri Pacific Elevator), Kansas City; Rosenbaum (I. C. Elevator), Omaha; Ralston Purina Co., Bloomington, Ill.; Terminal Grain Corp., Sioux City; Rice Grain Co., Toledo; Anheuser-Busch, Inc., Springfield, Mo.; Evans Grain Co., Champaign, Ill.; Nebraska Consolidated Co., Omaha, and Scoular-Bishop Grain Co., Kansas City, Mo.

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The 1951 Summer Symposium in the series sponsored annually by the Oak Ridge National Laboratory and the Oak Ridge Institute

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of Nuclear Studies will be held from August 27 to September 6 at Oak Ridge.

Sessions in the 1951 symposium will be devoted to nuclear engineering, at the request of the American Society for Engineering Education. Representatives of interested industrial organizations are invited to join AEC personnel and representatives of educational institutions in discussion of basic nuclear engineering, "philosophy," and engineering.

Million Barrels; Million Safe Man-Hours

Blue Grass Cooperage, a Brown-Forman subsidiary, recently received twin honors for setting a record of 1,000,000 man-hours of work without any time lost from accident. This record is outstanding because the accident rate for the woodworking industry is 40 per million man-hours. Special awards were presented to the company by the National Safety Council and by the Liberty Mutual Insurance Company.

The award presentation was celebrated simultaneously with the production of the one millionth barrel.

Protective Coatings for Decontaminable Surfaces

Results of extensive laboratory testing of the properties of 50 materials for protecting surfaces from radioactive contamination have just been made available, with the declassification of a report of the Oak Ridge National Laboratory.

The study was undertaken when experience showed that structural materials used in standard chemical laboratories were not always applicable to radio-chemical laboratories, and little user-history on other potentially applicable materials was available. Tests produced recommendations for use and the conclusion that "strippable coatings of the vinyl-base type are generally useful and inexpensive ... perhaps the best means of protecting wall and ceiling surfaces from contamination."

Copies of the report (AECD 2996) will be sold through the Office of Technical Services, Department of Commerce, Washington 25, D.C.

Dravo Men Honored For Safety Records

Twenty-three superintendents of Dravo Corporation Machinery Division projects operating out of the Pittsburgh area were honored February 26 for safety records on their respective jobs. Awards were made at the annual superintendents' meeting.

Four superintendents were presented with sets of luggage for completing 200,000 consecutive hours or more without a disabling injury on their individual projects. They are F. O. Moore, H. E. Whitney, E. J. Turnbull and Glenn Spearman. In all, their safe hours totalled 888,820.

Six superintendents received auto fire extinguishers for completing between 100,000 and 200,000 consecutive hours without a lost time accident on their jobs. Thirteen received certificates for more than 10,000 safe hours.

A special award was given W. G. Weller, field superintendent, for having operated small projects during the past 12 years without a disabling injury to any of his crews.

Dravo's Machinery Division accident frequency rate last year was 6.5 disabling injuries per million man-hours worked in comparison with the national average of 46.7. The accident severity rate—days lost per 1000 man-hours worked—was 3.5 for Dravo in comparison with the national average of 8.3.

Announce Conference on Medical-Personal Relations

"Medical-personal relations in industry" will be the subject of a three-day discussion to be held by the University of Michigan School of Public Health at Ann Arbor, May 17-19.

The five sessions of the conference will be devoted to: Nature and extent of personality problems in industry, identification and diagnosis of personality problems, training the medical staff for interviewing, clinical psychology, and the problem of the aging.

Information about the conference may be obtained from H. E. Miller, director of continued education, School of Public Health, University of Michigan, Ann Arbor, Mich.

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Heavy Duty Ribbed Runners For Halls, Corridors, Locker Rooms . . .

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Calendar Contest Winners for February

First prize in the National Safety Council's Calendar Contest goes this month to Miss Mary Carter of Indianapolis, Ind. Miss Carter works for the Indiana Employment Security Division. Her winning limerick was:

*And who could have helped it?
Lew's who.*

Second prize went to Nick Zager of Whiting, Ind., for this limerick:

Had Lew consulted someone who knew.

Third prize was awarded to Richard Harrison of Brooklyn, N. Y., for the following limerick:

*Blaming "things" is what careless
folks do!*

Thirty \$5 awards were issued to:

John W. Smith, Sulphite Department, Marathon Corp., Rothschild, Wisc.

Al Highsmith, Public Relations Assistant, Dan River Mills, Inc., Danville, Va.

Lou Grossman, Technical Representative, Emulgents, Inc., Fort Reading, N. J.

Nelda Jean Black, Box 5889, N. T. Station, Denton, Texas.

Charles L. Gunter, Tank Truck Driver, California Pacific Utilities Co., Klamath Falls, Ore.

James Briggs, Shipping Department, United States Rubber Co., Indianapolis, Ind.

Miss Agnes C. Lomax, Fall River, Mass.

E. G. Allen, A.P.O. Clerk, National Postal Transp. Serv., Chattanooga, Tenn.

Mrs. M. B. Wright, Seattle, Wash.

Mrs. Rex Barker, Cleveland, Ohio.

Frank L. Catino, Alpha Portland Cement Co., Martin's Creek, Pa.

Marguerite Hoerl, Wilmington, Del.

Don Marshall, Pasadena, Calif.

Ed Hanson, Chicago.

Thomas H. Homewood, Night Foreman, Oneida Ltd., Oneida, N. Y.

Hobart Lynch, Mine Inspector, Bureau of Mines, Mt. Hope, W. Va.

Mrs. Dave Wanggaard, Ogden, Utah.

Henry J. VerHagen, United States Rubber Co., Eau Claire, Wisc.

Mrs. Martha Mohrbacher, Secretary, E. W. McGrade Manufacturing Co., Marysville, Kan.

Benedict Kozdras, Boilermaker Department, Standard Oil Company (Indiana), Whiting, Ind.

Mrs. Marie Angela Johns, Hartford, Conn.

Joseph Takaes, Akron, Ohio.

Mrs. Alice M. Daubert, Buffalo, N. Y.

Earl H. Tabler, Universal-Cyclops Steel Corp., Bridgeville, Pa.

Mrs. Elizabeth Durlinger, Assoc. Prof. of Hygiene & Dean of Women, Butler University, Indianapolis, Ind.

Mrs. Esther Reed, Teacher, Port Arthur, Tex.

Mrs. H. B. Layne, Ironton, Ohio.

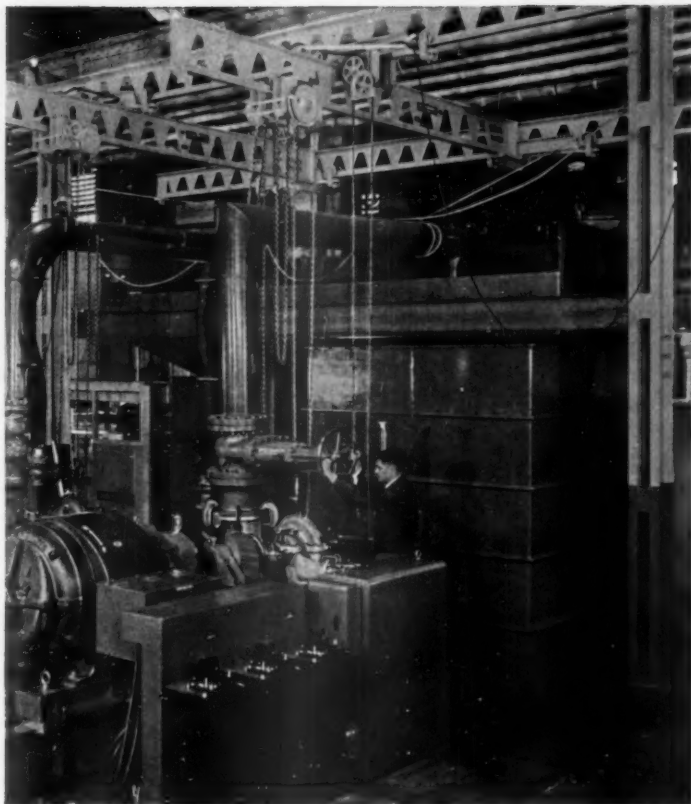
Martin Squier, Dieringer, Wash.

Dr. John E. Helm, Olney, Ill.

A. C. Burns, District Supt., Godfrey L. Cabot, Inc., Grantsville, W. Va.

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More Efficient



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THE many ways in which workers and management alike benefit by the use of Pittsburgh COLOR DYNAMICS are again demonstrated in the pump test department of the Allis-Chalmers Manufacturing Company, of Milwaukee, Wis. This organization is one of the world's greatest producers of agricultural, industrial and electrical power machinery.

● **Allis-Chalmers'** satisfactory experiences with COLOR DYNAMICS is best summarized in this comment by Carl E. Meyer, manager of the Department of Buildings and Properties:

● "Our pump test floor is just one example of how Allis-Chalmers is making use of the energy in color in various of its plant areas to help promote greater efficiency as well as to make working conditions better and safer. With focal and eye-rest colors

on walls we believe that we have lessened eye strain for employees who are almost continuously engaged in reading automatic recording instruments. We have also used morale-building colors in various areas to provide more attractive surroundings that improve the worker's attitude toward his task.

● "We have marked accurately all control and hazard areas in order to lessen the danger of accidents. We have also used a distinctive set of color markings on containers that hold hazardous materials as well as pipe-markings to distinguish carriers of various kinds of liquids.

● "As a result of this painting, workers take greater pride in their surroundings. They keep their working areas cleaner, thus simplifying housekeeping problems."

● **Why not try COLOR DYNAMICS** in your plant—on a machine or two, or in one department—and see the difference it makes?

Here's How You Can Get A Color Engineering Study—FREE!

● **For a complete analysis** of Pittsburgh COLOR DYNAMICS and how it works, write for a FREE copy of our booklet explaining this painting system. Or better still, ask us to make a scientific color engineering study of your plant for you free and without obligation. There's a trained color expert at each of our 75 warehouses. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have a representative see you at your convenience. Or mail the coupon below.

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Department NS-41, Pittsburgh 22, Pa.**

☐ Please send me a FREE copy of your new revised and enlarged booklet, "Color Dynamics In Industry."

☐ Please have your representative call for a Color Dynamics Survey of our premises without obligation on our part.

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SAFETY

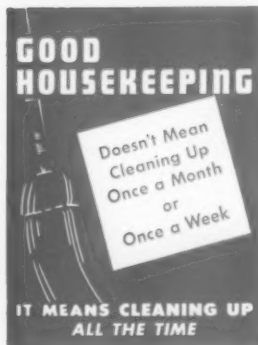
POSTERS

IMPORTANT

ALL miniatures shown on these pages are of NEW posters — produced for the first time this month. Excepting the Jumbo poster (below, left) all will be available during the remainder of 1951. Those displayed on the following pages in

black and white are actually printed in two or more colors. We suggest you refer to this copy of the News in making monthly selections.

In addition to these new posters, you will find a great variety of subjects among the 744 posters illustrated in the 1951 Directory of Occupational Posters, and which will also be in stock throughout 1951. For a proven plan of selecting your posters objectively, refer to pages 4 and 5 in the Directory—a copy of which has been sent to all National Safety Council members. Additional copies are available at 50 cents each—write Membership Dept., N.S.C.



9273-C

25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in black and white on the following pages and in the 1951 Poster Directory.



JUMBO POSTER for MAY 1951

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".



NATIONAL SAFETY COUNCIL

9268-A

8 1/2 x 11 1/2

This new four color poster is illustrative of the 72 four color posters shown in the 1951 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors
(Available only in sizes indicated)



9237-A

8½x11½



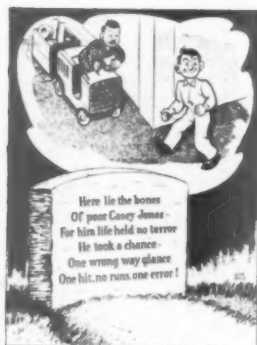
9040-B

17x23



9270-A

8½x11½



9234-A

8½x11½



9129-B

17x23



9281-A

8½x11½



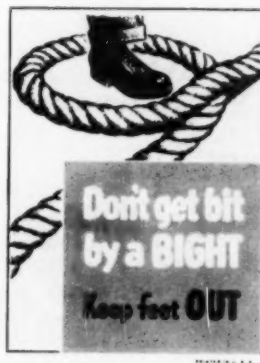
9222-B

17x23



9280-A

8½x11½



9272-A

8½x11½

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.

Posters below are printed in two or more colors
(Available only in sizes indicated)

DO ONE THING AT A TIME-



FIRST

SET THE
SWITCH

THEN

PUSH THE
BASKET

NATIONAL SAFETY COUNCIL

9219-A

8½x11½



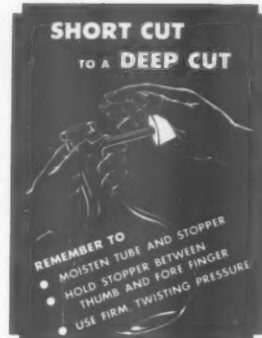
Are You
SAFETY
LAZY?

PROP IT
UP FIRST!

NATIONAL SAFETY COUNCIL

9189-A

8½x11½



SHORT CUT
TO A DEEP CUT

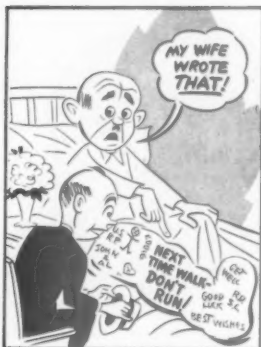
REMEMBER TO

- MOISTEN TUBE AND STOPPER
- HOLD STOPPER BETWEEN THUMB AND FORE FINGER
- USE FIRM TWISTING PRESSURE

NATIONAL SAFETY COUNCIL

9271-A

8½x11½



MY WIFE
WROTE
THAT!

NEXT TIME WALK-
DON'T RUN!

COULD YOU
LOCK THE
REAR WHEELS?

NATIONAL SAFETY COUNCIL

9179-A

8½x11½

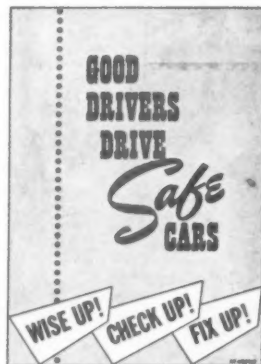


STREET SIDE
Suicide!
CURB SIDE
Safe Side!

NATIONAL SAFETY COUNCIL

T-9238-B

17x23



GOOD
DRIVERS
DRIVE

Safe
CARS

WISE UP!

CHECK UP!

FIX UP!

NATIONAL SAFETY COUNCIL

T-9215-B

17x23



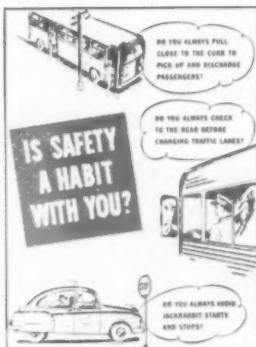
BE ALERT!
for CUT OFFS

USE YOUR BRAKE
NOT YOUR HORN

NATIONAL SAFETY COUNCIL

V-9258-A

8½x11½



IS SAFETY
A HABIT
WITH YOU?

DO YOU ALWAYS PULL
CLOSE TO THE CURB TO
PICK UP AND DISCHARGE
PASSENGERS?

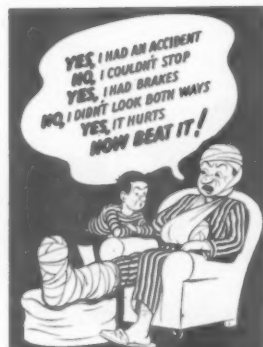
DO YOU ALWAYS CHECK
TO THE REAR BEFORE
CHANGING TRAFFIC LANES?

DO YOU ALWAYS HONK
JACKABOOT STARTS
AND STOP?

NATIONAL SAFETY COUNCIL

V-9260-B

17x23



YES, I HAD AN ACCIDENT
NO, I COULDN'T STOP
YES, I HAD BRAKES
NO, I DIDN'T LOOK BOTH WAYS
YES, IT HURTS
NOW BEAT IT!

NATIONAL SAFETY COUNCIL

V-9259-B

17x23

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.



New Safetygraph

A brand-new Safetygraph, No. 19 in this popular NSC series of visual training aids, is *Static Sparks and Flammable Liquids*. After a brief explanation of the ways in which static sparks can be generated, the Safetygraph then concentrates on the problem of static generated by flammable liquids flowing from a nozzle or pipe.

Cartoons and drawings show how static can be drawn off by the bonding of small flammable liquid containers and by the bonding and grounding of large ones. The need for employees to use bonding or grounding connections before they attempt to open containers is emphasized, and they are shown how to do the job correctly.

Designed as a teaching device for small groups, the Safetygraph is 18 inches by 24 inches, with single color illustrations on one side of each sheet for the group to study and a running commentary on the reverse side of the sheet for the leader to use.

Member prices: Safetygraph with easel, 1 to 9 copies, \$14.55 each; 10 to 99, \$13.75 each; 100 or more, \$13.20 each; Safetygraph without easel, 1 to 9 copies, \$11.00 each; 10 to 99, \$10.45 each; 100 or more, \$9.90 each.

"K. O. Dirt and Disorder"

A new and different pocket-sized booklet, *K. O. Dirt and Disorder*, provides in its 16 pages a vigorous approach to the problem of industrial housekeeping.

Printed in two colors and illustrated with cartoons showing right and wrong practices, the booklet can be used to spark a spring housecleaning campaign or with equal effectiveness can be distributed to employees as part of the year-round safety program. Brief lines of copy explain the role to be played by the employee in keeping the plant clean and or-

derly. To secure extra reader interest, a quiz on fundamental housekeeping practices is included.

Member prices: 1 to 9 copies, 12 cents each; 10 to 99, 7 cents each; 100 to 999, 6 cents each; 1000 to 4999, 4½ cents each. For prices on quantities over 5000 and for sample copies, write the Council's Membership Department.

"Go Fly a Kite"

With the development by the Executive Committee of the Public Utilities Section of a four-page leaflet on kite flying hazards, for the first time a kite-flying package consisting of a poster and a leaflet is available for schools and school children.

For posting on school bulletin boards and on display windows, "Go Fly a Kite," a standard 8½-inch by 11-inch poster (No. 9256-A), warns youngsters of the hazards of flying kites near power wires, of climbing trees and line poles, and of using metallic kite string.

A similar message, illustrated with cartoons and presented in language which a school child can easily understand, is contained in the 3½-inch by 6-inch, three-color leaflet entitled *Go Fly a Kite*.



Wide distribution of this inexpensive package will not only help prevent costly public-liability accidents but will also help build customer good will.

Member prices for the leaflet: 1 to 9 copies, 10 cents each; 10 to 99, 3 cents each; 100 to 999, 2 cents each; 1000 to 4999, 1-2/10 cents each. Member prices for the poster: 1 to 9 copies, 9 cents each; 10 to 99, 5 cents each; 100 to 999, 4-6/10 cents each; 1000 to 4999, 3-4/10 cents each. For prices on quantities over 5000 and for samples write the Council's Membership Department.

Safety Reprints

Five Safety Reprints of general industrial interest have recently been placed in stock. Safety Reprint Chemical No. 1 (four pages) is concerned with "Public Relations Aspects of Industrial Wastes." By G. Edward Pendray, it is reprinted from Volume No. 6 of the 1950 *Transactions*.

"Death on the Roof Top" (two pages), Safety Reprint General No. 14, is a discussion of the hazards which may be encountered in the installation of television antennas. It was written by George MacDonald of the Council staff for *Electrical Dealer* and *Popular Mechanics* magazines. It will be helpful not only to television dealers but also to the purchaser who intends to handle his own installation.

Safety Reprint General No. 15 (one page), "Starting a Two-Cycle Engine," describes the causes and illustrates the results of an explosion which occurred when a two-cycle engine blew apart. The material includes the safe procedure, step by step, for starting such an engine.

Walter J. Byrne is the author of Safety Reprint General No. 16 (four pages), which is entitled "How to Inspect for Accident Prevention Physical Conditions—Buildings." It is from Volume No. 5 of the 1948 *Transactions*.

The article on "Static Electricity" by G. M. Kintz, which appeared in the February 1951 issue of *NATIONAL SAFETY NEWS*, has been stocked as Safety Reprint General No. 17. The original il-

How About It, Boss...



StaSafe Salt Bulletin No. 512 offers complete descriptions and prices... Write for it today!

Now's the Time to Get Your StaSafe or Fairway Salt Dispensers!

Now is the time to place your order... Save your workers' time and your money by using StaSafe or Fairway Salt Dispensers in your plant. Proof of why companies everywhere want StaSafe or Fairway dispensers lies in the more than 18,000 units sold during 1950!

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SAFETY EQUIPMENT FOR ALL INDUSTRIES

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IPCO M and M RAIL CLAMPS

For car stops, on loading platforms, temporary sidings, cars on grades, and traveling cranes... Used and recommended by leading Steel Companies, Manufacturing Plants, Mines, Grain Elevators, Cement Plants and Quarries.

WRITE FOR Bulletin K-41



Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

2850 N. FOURTH STREET • PHILADELPHIA 33, PA.

illustrations are used in this 3-page reprint.

Member prices: 1-page to 4-page reprints, 1 to 9 copies, 17 cents each; 10 to 99, 13 cents each; 100 to 999, 8 cents each; 1000 to 4999, 7 cents each; 8-page reprint, 1 to 9 copies, 29 cents each; 10 to 99, 24 cents each; 100 to 999, 18 cents each; 1000 to 4999, 14 cents each.

"Cry, Whoo!"

How Shakespeare might react to a series of typical, modern traffic problems is the subject of a new pocket-sized booklet entitled *Cry, Whoo!* Clever cartoons lend humor to the situations, and suitable lines from his plays not only point up what Shakespeare's reactions might be but also neatly underscore the "moral" for today's driver.

Using a novel approach to catch reader interest, this 16-page, two-color booklet hits hard and effectively, in a way which readers will remember, at the subject of traffic accident prevention.

Cry, Whoo!, prepared by the Traffic and Transportation Division of the Council, will be a useful addition to the industrial plant's off-the-job safety program.

Member prices: 1 to 9 copies, 12 cents each; 10 to 99, 7 cents each; 100 to 999, 6 cents each; 1000 to 4999, 4½ cents each. For prices on quantities over 5000 and for sample copies, write the Membership Department.

New Data Sheet

A new data sheet, D-E. E. 2, *Stranding of Communication and Power Cable*, has recently been produced by members of the Electrical Equipment Section of the Council. Subjects covered are types of stranders, types and causes of injuries, guarding, maintenance, personal protective equipment, and general precautions.

This four-page, illustrated data sheet is not scheduled for publication in the NATIONAL SAFETY NEWS.

Member prices: 1 to 9 copies, 17 cents each; 10 to 99, 13 cents each; 100 to 999, 8 cents each; 1000 to 4999, 7 cents each.

Pulp and Paper Engineering Study

A new Engineering Study, Pulp and Paper No. 7, is *Threading and Breaking Sheet on Dryer Rolls*. Illustrated with photographs and drawings, this 3-page study is based on the replies received from twenty-two pulp and paper com-

panies in answer to a questionnaire which asked what methods are being used to prevent workers from being drawn into the nips of dryer rolls.

Member prices: 1 to 9 copies, 29 cents each; 10 to 99, 24 cents each; 100 to 999, 18 cents each; 1000 to 9999, 14 cents each.

Heart Patients Can Help in Defense Effort

A critical need for an expanded rehabilitation program to return the heart patient to physical and economic usefulness, especially in the light of current demands for manpower mobilization has been emphasized by Dr. Joseph G. Benton and Dr. Howard A. Rusk of the Department of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center. Dr. Benton is physician in charge of cardiac research and Dr. Rusk is professor and chairman of the Department.

The call for an active and vigorous program was made in an article on "Rehabilitation and Cardiovascular Disease" in the December issue of *Modern Concepts of Cardiovascular Disease*, published by the American Heart Association.

In highlighting the need for an adequate rehabilitation program, Drs. Benton and Rusk state, "The available effective manpower reservoir is at present 2½ million compared to 3 million in 1940. Should the national mobilization proceed at an increasing tempo, it is anticipated that industry and the armed forces in a mobilization program will rapidly absorb this group. Further mobilization will, of necessity, have to draw on the large number of disabled and the older age groups for its labor pool."

To assure the success of a cardiac rehabilitation program, employers must be educated to accept cardiacs who have been rehabilitated and who are capable of holding suitable jobs. Also, housewives, "the largest segment of the working cardiac population," should not be overlooked in the rehabilitation program.

The outlook for patients suffering from partial paralysis as a result of some forms of vascular disease is far from hopeless, ac-



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Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

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Free
SAMPLES
AND
USEFUL
CATALOG



The **NAME...**
Tells the **STORY!**
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QUICK-FLOOR

- Instant-use from drum to floors worn, damaged or broken. QUICK-FLOOR resurfaces aisles, platforms, ramps, stairways, without delays or down-time. The sooner you let trucks roll over it the tougher it gets.
- FOR CONCRETE, METAL, WOOD, OR ASPHALT.
- LAY IT ON A SQUARE FOOT A MINUTE.
- WILL NOT CRACK OR CRUMBLE, GETS HARDER.
- ORIGINAL FLOOR PATCHER AND SURFACER SINCE 1938.

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All Purpose Shoe—
Style 280

Wooden sole shoes have a definite safety protection in certain industrial operations.

DAVENPORT wooden sole shoes are resistant to heat, water, dust, oil, and acid. They give proper foot arch support and complete protection with comfort. Used on wet, cold, slippery or intensely hot floors, wooden soles are superior to leather, composition, or rubber soles. Wooden sole shoes cost much LESS, and wear much LONGER.

DAVENPORT wooden sole shoes are available in many styles for men and women—in sizes 5 to 12—to meet individual industrial problems. "PROTECTO" Safety Steel Toe of high carbon steel optional.

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STAHRER SHOE CO.

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Steel Mill Shoe—
Style 230



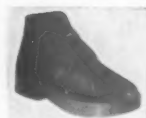
Chemical Plant Shoe—
Style 1230



Oil Refiner's Shoe—
Style 283



Foundry Man's Shoe—
Style 202



Meat Packer's Shoe—
Style 215



All-Purpose Leather
Boot—Style 400



Hot-Foot Sandal — Fits
over regular shoe



Shower Sandals — For
Men and Women

"Fire - Chief" Finished WELDING CURTAINS

to confine the welding operation to a given area

SALVAGE COVERS

Used to protect machinery, and other equipment from water, dust and snow.



FLAMEPROOF CANVAS

impregnated with Hooper's Fire Chief treatment under their patent which carries the Underwriters' Laboratory seal.

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"If It's Made of Canvas, We Make It"

cording to the authors. This type of disability case can be aided by physical therapy, followed by aptitude testing, vocational retraining, and selective placement. Drs. Rusk and Benton add that many other cardiac disability cases, including those affected by fear of activity, "can work providing motivation is present, adequate (work) tolerance studies are done, anxiety is alleviated, and in addition they are selectively placed in jobs whose demands are matched by their physical capacities."

"No program concerned with the full rehabilitation of the cardiac patient can succeed," the authors continue, "unless industry takes the finished product. The current need for additional manpower should make it easier to place such patients. A vigorous program of education, however, is still needed which would clearly demonstrate that under proper conditions, the cardiac patient can work effectively and safely. In addition, 'second injury' legislation, which limits the employer's liability for employee disability, will give greater impetus to the employment of the person with heart disease. . ."

Recognizing the urgent need for a greatly accelerated rehabilitation program, many affiliates of the American Heart Association throughout the country have already inaugurated "Cardiac in Industry" programs to bring together all interested groups in the community in working out a solution.

Regarding the place of the cardiac housewife in the rehabilitation program, the authors assert, "The need here is critical, since the woman with cardiac disease, of necessity, in many instances, continues to do kitchen and housework. Rehabilitation of the patients consists of retraining and the development of less energy consuming methods for the performance of the customary household routines."

The authors refer in this connection to the model work simplification kitchen first assembled by the New York Heart Association for patient training and research, and later incorporated by the American Heart Association into a national counseling and demon-

stration program. Many affiliated Heart Associations are making this one of their chief program activities.

In reviewing the need for a strong rehabilitation program for the patient with heart or blood vessel disease, Drs. Benton and Rusk point out that of a total of approximately 58,000 persons rehabilitated in 1949 through State Vocational Rehabilitation Services under the auspices of the Federal Security Agency, only about 2,200 (approximately 3.9 per cent, were patients with heart disease. This is compared with a percentage of 8 per cent for the tuberculosis patient.

Citing other supporting reasons, the authors say, "Of the approximately nine million individuals in this country suffering from cardiovascular disease, it may be assumed that a significant percentage is limited either in the safe performance of tasks which make for independence in personal living or for work capacity. . . . Further, in terms of disability it has been shown that cardiovascular, renal (heart, blood vessel, and kidney) disease manifests the highest rate of days disability per year, taking precedence over nervous and mental diseases, orthopedic impairments, diseases of the respiratory tract, accidents, and rheumatism and allied diseases. It has been shown that cardiovascular diseases were the second leading systemic cause of military rejection in World War II, preceded only in frequency by diseases of the musculo-skeletal system.

Gas Industry Launches Safety for Defense Drive

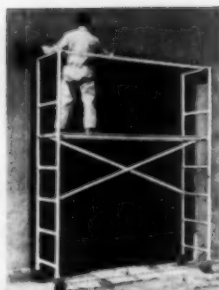
Active measures to stimulate accident prevention campaigns among member companies as a defense contribution are being taken by the American Gas Association. Two past presidents of the Association, Robert Hendee and Hugh H. Cuthrell, in their terms of office urged gas utility companies to increase efforts to reduce accidents. D. A. Hulcy, president of A.G.A., and the Association Accident Prevention Committee, under the chairmanship of W. H. Adams, safety director, Manufacturers Light &

Compare EVERY FEATURE!



SECTIONAL LADDER SCAFFOLDS
SECTIONAL ROLLING SCAFFOLDS

LADDER SCAFFOLDS available in 6', 8' or 10' spans. Will clear obstructions 4 1/2' high by 5', 7' or 9', respectively.



Definitely superior in design, workmanship, durability, strength and easy assembly, these aluminum scaffolds excel for safety, convenience and economy. Approved by Underwriters' Laboratories, Inc.

Stiffer aluminum tubing means greater rigidity and lasting service. Full welds on all coped joints.

Single-action brake positively locks castor wheels and swivel.

Legs may be adjusted without danger of tipping or upsetting.

Sockets have enough clearance for ease of assembly, yet provide a rigid scaffold.

Ideal for painting, maintenance and many other types of work. Get the facts! Write for FREE Bulletin PSS-20 and PSS-22. See how these scaffolds can help you.



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Ladders and Scaffolds for Any Purpose — Any Place — Any Time

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NEW
**E-X-P-A-N-D-E-D COTTON*
SWEATBANDS**

ONLY 2 1/2¢
EACH



FEATHER-LIGHT—You feel only soft cool, comfort!

***E-X-P-A-N-D-E-D COTTON**—Cotton-backed gauze expanded to 8 times normal thickness!

FOUR-LAYER FOLD—Extra absorbent capacity!

NO METAL—Only pure cotton and cotton-covered elastic. No rusting, chafing, no discomfort.

So inexpensive, they can be used and thrown away... So strong, they can be rinsed and used repeatedly!

Here's the answer to perspiration...super-soft, super-absorbent E-X-P-A-N-D-E-D COTTON SWEATBANDS. Real comfort for those hot-spot jobs... a better band at a lower price.

Perfectly designed. No metal parts to rust or chafe, cotton-covered elastic holds band firmly but you can't even feel it. Get E-X-P-A-N-D-E-D COTTON SWEATBANDS from your regular dealer in safety or first aid supplies. Write us for free sample today.

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Makers of GAUZX—The bandage that sticks to itself



SAVE Maintenance AND Towel Costs WITH

**Sani-Dri
ELECTRIC
HAND OR HAIR DRYERS**

New semi-recessed model with high-speed drying features.

SAVES MAINTENANCE EXPENSES!

ELIMINATES TOWEL EXPENSE... SAVES STORAGE SPACE

ELIMINATES FIRE HAZARD!

Save valuable maintenance time and eliminate continuing towel expense. New high-speed Sani-Dri provides quick, automatic hand or hair drying service 24 hours a day year after year! Sani-Dri is a permanent solution to your washroom sanitation and drying problem . . . and SAVES UP TO 85% OF YOUR WASHROOM COSTS!

NEW FASTER-DRYING FEATURES!

- New faster-drying heating element!
- New smaller, oval nozzle produces more concentrated stream of air!
- Instant starting push-button switch with automatic shut off!

All Sani-Dri Electric Dryers are GUARANTEED, and have carried the Underwriter's Seal of Approval for over 18 years!



New Brochure!

Shows all Sani-Dri hand and hair dryer models with new high-speed drying features . . . plus installation pictures. Write today!

Distributors in Principal Cities
THE CHICAGO HARDWARE FOUNDRY CO

"Dependable Since 1897"
0141 Commonwealth Ave. • North Chicago, Ill.

Heat Company, Pittsburgh, have launched a campaign to improve the record of the industry.

The first national safety conference of gas utility executives was held in Washington last fall with more than 150 delegates in attendance. At that meeting 36 gas utility companies were awarded engraved certificates for reducing their accident frequency and severity rates by 25 per cent.

The Accident Prevention Committee of A.G.A. recently staged a two-day meeting in New York, and the plans were laid at the meeting for a campaign directed to all company officials and employees within the industry. Mr. Huley opened the campaign with a letter addressed to each member company appealing for greater effort in improving the industry's accident experience.

A sub-committee for publicity has been appointed within the Accident Prevention Committee and this committee has mapped out plans for increasing awareness of accident prevention within the gas industry. This committee comprises: F. G. Harriman, chairman, New England Power Service Company, Boston; W. T. Rogers, Ebasco Services, Inc., New York; E. E. Taylor, Southern California Gas Company, Los Angeles; R. E. McEldowney, United Fuel Gas Company, Charleston, West Virginia; W. O. Lape, Texas Gas Transmission Corporation, Owensboro, Kentucky; H. E. Thomas, Fuelite Natural Gas Corporation, Westfield, N. J.; E. S. Beaumont, The Peoples Gas Light & Coke Company, Chicago; D. C. Stewart, Niagara Mohawk Power Corporation, Buffalo; D. E. Buckley, The East Ohio Gas Company, Cleveland. Members of A.G.A. who will serve with the committee are: Thomas J. Shanley, acting secretary; Jac Cushman, editor of the *A. G. A. Monthly*, and George A. McDonald, publicity director.

Increased awareness of accident prevention will be urged on the industry by means of published articles, safety messages, and quarterly letters from Mr. Huley to all top executives of the industry. These letters will cover safety in operating and production, analyses of accident experience and a review of the year's work.

RAINTITE SAFETY CLOTHING CO.

offers
Highest Quality Protective
Rubber Clothing

The following bulletin includes prices and descriptive information regarding rain and safety equipment which is currently available.

ELECTRICIAN'S AND LINEMAN'S SAFETY RAINCOATS

No metal parts. Wide reinforced waistband permits wearing of electrical repair equipment without damage to coat. Pure gum cuffs to keep rain out of sleeves when arm is raised. A 9" x 16" yellow patch on back of coat adds safety by affording greater visibility.

Price each \$13.95

REGULAR ALL PURPOSE WORK RAINCOAT

Ventilated cape back. Corduroy-tipped collar.

Black \$8.95; Yellow \$9.95

SWITCHMAN'S RAINCOAT

For railroad workers. Ball and socket fasteners allow coat to be slipped off should any part of it become entangled in a moving car or other object. Shorter length eliminates danger of tripping on skirt of coat. Price each \$8.95

RAIN SUITS

For outside or for Platers and Industrial Washing Problems.

Price \$11.95

HATS

For all of above: "Southwester" Type. Price each \$1.50

RUBBER SLEEVES

To completely protect forearm and elbow of wearer.

Price per pair \$1.50

LEGGINGS

Fully protects entire leg. Used in many industries. Has foot-trap and adjustable waist strap for easy attachment to body. Inside length 23 to 28 inches. Sizes Small, Medium, Large. Price pair \$3.50

APRONS AND GLOVES Also Available

MATERIAL AND DESCRIPTIONS:

Made by an exclusive "Fluidproof" Process of 100% American Rubber; Waterproof; Completely Vulcanized; can be cleaned with Damp Cloth; suitable for winter or summer. Order same as personal clothing size.

RAINTITE SAFETY CLOTHING CO.

6960 Foster Avenue
Chicago 31, Illinois

Revised Standard for Welding Announced

The American War Standard on safety in welding and cutting proved so valuable in minimizing injuries and property losses, which might have occurred because of accelerated production and the use of untrained personnel, that it was decided to prepare an American Standard on the same subject. With industrial production on the increase again, issuance of the new American Standard *Safety in Electric and Gas Welding and Cutting Operations* (Z49.1-1950) is especially timely.

The present American Standard was prepared by a committee sponsored by the American Welding Society under the procedures of the American Standard Association. It reflects the recommendations of welding engineers, safety engineers, equipment manufacturers, insurance organizations, labor organizations and governmental labor agencies, all of whom were represented on the Committee.

American Standard Z49.1 covers regulations for the installation and operation of welding equipment for all arc, gas and resistance welding processes. Provisions are included for fire protection in regularly assigned welding areas and in other locations as well. Protection of personnel is covered from the standpoint of the welder, for whom eye protection and clothing requirements, health protection, etc., are prescribed, and from the standpoint of other workers in areas adjacent to welding operations.

Precautions are specified for the welding of materials which may give off toxic fumes and for welding in confined spaces.

Ventilation requirements have been considerably modified and more clearly prescribed than in the American War Standard and should be more useful to industry.

Copies of this Standard are available at 50 cents each from the American Welding Society, 33 West 39th Street, New York 18 or American Standards Association, Inc., 70 East 45th Street, New York 17.

There's nothing like having a baby around to make a person realize that it's a changing world.



"The Heat's Got Him"

Ever heard that expression? Trouble is, when the heat's got him it means wasted man hours that cost you money!

Fairway Salt Tablets save you that money by replacing body salts lost in sweat . . . and remember, Fairway Enteric Coated salt tablets are for those "salt sensitive stomachs!"

Send NOW for StoSafe Salt Bulletin No. 5131

100% Salt uncoated . . . Comb. Salt and Dextrose uncoated.
100% Salt Enteric coated . . . Comb. Salt and Dext. Ent. coated.



STANDARD SAFETY EQUIPMENT COMPANY

232 W. Ontario St., Chicago 10, Ill.

ONE PIECE LEATHER APRONS give more protection!

COLONIAL GARMENT KIP SPLITS

- WILL CUT ANY SIZE ONE-PIECE APRON
- FULL CHROME TANNED LEATHER FOR HEAT RESISTANCE
- PEARL COLOR—WEIGHT TO SUIT—WELL TRIMMED

Mr. Safety Engineer: We do not manufacture safety clothing, but you can specify one-piece leather aprons made of Colonial Garment Kips from your supplier.



COLONIAL TANNING CO., INC.

Glove Leather Division

730 W. VIRGINIA STREET MILWAUKEE 4, WISCONSIN



NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

Bundling Chain

A new idea for bundling materials for storage is announced by American Chain & Cable Co., Inc., York, Pa. The bundling chain with automatic lock permits bundles to be stored indefinitely and held securely, eliminating the use of pins, pear shaped links, and wires usually needed for binding the bundles of material. The lock is available as a separate unit or as a part of a chain assembly. At present the lock is manufactured for $\frac{1}{2}$ " , $\frac{3}{8}$ " , $\frac{5}{8}$ " and $\frac{3}{4}$ " chain.



The chain assemblies with automatic lock can be furnished with regular wrought iron, low carbon, high test or alloy chain, depending on the type service and weight of load to be bundled and lifted.

Insulated Glove

Singer Glove Mfg. Co., 860 Weed St., Chicago, announces an insulated glove made in three layers securely quilted and stitched together. Top layer is of heavy terry cloth, in tan color, knitted with thousands of loops and treated to make it heat



retardant. This cushions and protects the worker's hand and takes the brunt of hard usage.

The middle layer is of asbestos and wool for maximum heat insulation. Inside layer next to the worker's hand is of heavy fleeced cotton for comfort and added insulation. The result is a light-weight, flexible glove that protects against heat and gives unusually long wear for welders or workers who handle hot materials. Both mittens and gloves in 12 inch and 14 inch lengths made of this combination are available.

Channel Marking Machine

The CM-50 Channel Marking Machine has been developed by M. E. Cunningham Co., 200 E. Carson St., Pittsburgh, Pa., for stamping trade name, address or other identification on aluminum or other metal channel sections. Developed specifically for code identifying aluminum storm doors and windows, this equipment also can be produced for stamping small steel or aluminum channel sections of practically any shape.



A channel section is marked by pulling the handle from left to right. This action rolls a deep, clear-cut mark in the channel without distorting the metal. A spring returns the mandrel to position for the next marking. The roll die can be made with lettering engraved on the solid roll. For part numbers or other changing identification marks, interchangeable type setups can be provided. The base or mandrel section is machined to suit individual channel shapes. Mounted on needle bearings, it is made of solid steel for providing a solid stamping surface.

Spark-Proof Conductive Flooring

Condurock, a ready-mixed, electrically conductive floor resurfacer to reduce explosion hazards due to static electricity is being produced for immediate shipment by Rock-Tred Corp., 7438 N. St. Louis Ave., Skokie, Illinois.

Condurock is a factory-prepared, heavy-duty, spark-proof, conductive resurfacer that may be applied over concrete, metal,

brick, wood or composition floors, as a preventive of explosions caused by static electricity in laboratories and plants where black powder, igniter composition, tracer mixtures, mercury fulminate, lead azide, tetrol and other like materials are handled or processed.

The product is packed in 30 gallon drums and comes completely prepared with full application instructions.

Disinfecting Agent

"Whiz Puracide," a new disinfecting agent said to be powerful and rapid in action yet stainless, odorless, non-corrosive and non-irritant to tissue when used as directed, has just been introduced by the R. M. Hollingshead Corp., 840 Cooper St., Camden, N. J.

The new product is a liquid known as a "quaternary ammonium concentrate" and its deodorizing properties are said to be as powerful as its disinfecting action although it is virtually non-toxic when used as directed. The germicide can be diluted to different strengths, depending on the use for which it is intended. It is instantly soluble in any water, hard or soft, hot or cold.

The disinfectant is packaged in metal containers to eliminate breakage. It can be used over a wide range of applications in the commercial and industrial field. Recommended uses include washrooms, locker rooms, first aid rooms, plant restaurants and disinfecting safety equipment such as goggles and gas masks.

Vacuum Cleaner

Huntington Laboratories, Inc., Huntington, Ind., announce a new lightweight Model 95 Silent Huntington vacuum cleaner, successor to former Model 90 unit. Construction changes in the new model make for greater portability. It weighs only 30 pounds. Three-caster mounting prevents teetering on uneven floors, and the machine's low center of gravity and 27 1/2 inch height make it maneuverable in confined areas.

The machine operates without belts on 0-60 cycles with a 5/7 h.p. motor for 1 1/2 inch air orifice and hose. This silent Model 95 with standard dry equipment includes a 10-foot, 1 1/2 inch flexible hose, steel floor cleaning wand, floor tool, upholstery tool, air filter bag, and 35-foot pull-out proof rubber cord plug set. For wet cleaning the machine includes a water pick-up pan and floor squeegee tool in addition to the above equipment. The 5/7 h.p. motor develops a maximum water lift of 57 inches. The machine has a capacity of 1 1/2 bushels or 9 1/2 gallons.

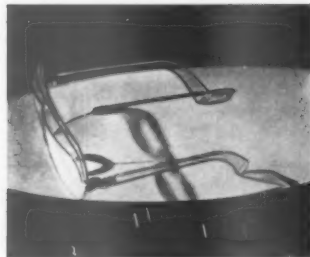
NEW SAFETY EQUIPMENT FOR INDUSTRY



Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Safety Goggles

The United States Safety Service Co., 1215 McGee St., Kansas City, Mo., announces a new temple design for their plastic spectacle. It is claimed that with



the new temple the spec fits more securely and is more comfortable and attractive in appearance. The new temple has the same detachable feature as the old one used on their SAF-I-SPEC.

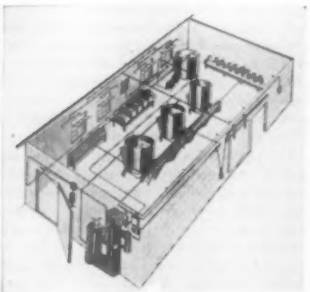
Hand and Arm Protection

A new device to minimize the hazard of dangerous liquids and dusts from leaking into workers' gloves or on their arms is being patented by the Standard Safety Equipment Co., 232 W. Ontario St., Chicago 10.

The protective measure consists of an adjustable tapering insert for use under gauntlet-type rubber gloves together with a tapering rubber sleeve hermetically sealed to Gra-Lite or maroon fabric garments. When the glove is inserted into the sleeve and pulled slightly away, a rubber-to-rubber contact is made which effectively seals the worker's arms and hands. Detailed information may be obtained from the manufacturer.

Extinguishing System

A dry chemical piped system, designed for automatic protection of industrial fire hazards, has been developed by Ansul Chemical Co., Marinette, Wis.



This new system is operated by a heat-actuated device mechanism. When fire starts and temperature increases, air expands within the H.A.D. This trips a nitrogen cylinder release, pressurizing the dry chemical container. Dry chemical is then discharged through strategically located distribution heads onto the fire area.

Automatic controls can be added to the system to close doors, windows, ventilation ducts and to operate valves on pipes carrying flammable liquids. Electric controls can be included to shut off motors and fans, sound alarms and transmit signals to central stations or fire alarm headquarters. Manual as well as automatic operation is provided in all installations.

The systems are specially recommended for the following types of hazards: paint dip tanks and spray booths; ovens; driers; oil quench tanks; flammable liquid pumping stations; transformers; diesel and gasoline engines; printing presses; loose textile stocks; oil storage tanks; flammable liquid storage rooms; marine hazards and asphalt saturators.

Metal Nameplate

Introduction of a new self-adhesive metal nameplate requiring no pre-drilling of holes, screws, rivets or other fastening devices has been announced by the C & H Supply Co., Metal-Cal Division, Seattle, Wash.

Consisting of a .003-inch thickness of aluminum foil anodized and dyed to government specifications, Metal-Cals were developed to meet the specific needs of the Boeing Airplane Co. during the last war. The product is now being made available to all potential users of a permanent identification device. Backed with a high tensile bonding material, these nameplates can be quickly applied to any smooth, cohesive surface on metals, porcelain, bakelite, polystyrene, glass, wood, paints or enamels. Permanent legibility of letters and characters is provided by the processing which makes them a part of the aluminum foil itself. They have passed rigid government tests for weathering, salt spray, humidity, abrasion and low and high temperature. Metal-Cals are available in five colors—brown, red, black, blue, green—plus aluminum.

Safety Glasses

New absorptive safety glasses for people whose eyes are especially sensitive to light rays have been developed by Bausch & Lomb Optical Co., Rochester, N. Y. The glasses are designed for dress as well as safety wear. The flesh-colored lenses which can be readily hardened, possess all the neutral absorption properties and transmission qualities of standard Soft-Lite lenses. The new lenses, known as Soft-Lite HT-51, are available from Soft-Lite distributors throughout the country.

Artificial Respiration

The M-S-A Pneolator which makes automatic artificial respiration possible without suction, is announced by Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

The Pneolator uses intermittent positive pressure to provide safe, uniform lung ventilation in cases of respiratory failure. In operation, the device automatically inflates the lungs with oxygen in the right amount and at the right pressure for the unconscious victim's physical requirements. No



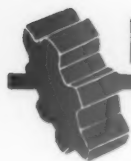
suction is employed, exhalation taking place by normal passive return of respiratory muscles in the lungs from the expanded state of inhalation. After voluntary breathing starts, the Pneolator serves as an inhalator to satisfy the patient's demand for oxygen. A second patient may be given simultaneous treatment by means of an auxiliary attachment with a separate control panel.

Compact, weighing only approximately 47 pounds complete, the Pneolator is contained in a strong, yet light, Fiberglas carrying case.

Outdoor Floodlights

Weatherproof cluster lights for outdoor protective lighting, factory yard lighting, and other industrial area floodlighting applications are provided with the new Stonco Cluster Box No. 25 announced by Stone Manufacturing Co., 489 Henry St., Elizabeth, N. J.

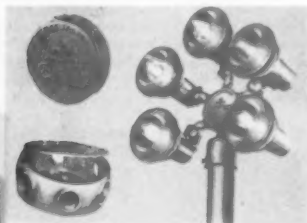
Designed to conserve aluminum, the new unit combines aluminum alloys precision die-cast to provide greater structural strength with less aluminum by weight than in conventional wiring troughs available for the same purpose. A removable cast aluminum cover plate sealed with a heavy cork gasket provides quick, easy access to inside wiring and speeds up installation and the addition of supplementary lamp-



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holders as well. Each box has six holes tapped $\frac{1}{2}$ " IPS to take from one to five standard lampholders for the 150-watt, 200-watt and 300-watt outdoor weatherproof reflector bulbs available as standard stock from all major lamp bulb manufacturers.



The advantage of cluster lights for plant protective lighting is that burnout of a single floodlight normally results in total darkness, whereas every light in a cluster would have to burn out before total darkness would be possible. In addition to outdoor lighting of industrial areas, plant entrances, fences, gates, alleys between buildings, shipping and receiving areas, etc., the unit is recommended for lighting gasoline service stations, parking lots, roadside stands, recreation areas, and other general floodlighting applications.

Demand Oxygen Unit

A new demand-type oxygen unit for emergency treatment of smoke inhalation, heart failure, asthma, pneumonia and carbon monoxide inhalation has been developed by Mine Safety Appliances Co., Pittsburgh, Pa. Self-contained in a sturdy carry-



ing case, the oxygen unit is put in operation by opening the cylinder valve and placing the facepiece on the patient. Oxygen is administered automatically as the patient's

breathing requires it. This instrument can also be used to supply oxygen in conjunction with artificial respiration in cases of asphyxia.

The complete unit consists of a half-mask facepiece, regulator assembly, six-foot length of non-kinking breathing hose, a 40 cubic foot capacity oxygen cylinder and the carrying case.

Foam Generator

The recently-introduced National Aer-O-Foamster, a product of National Foam System, Inc., West Chester, Pa., presents a modern means of obtaining substantial foam from a compact, inexpensive unit. For protection against fires, it delivers a water stream as well as a foam stream. It is ideal for use in gasoline stations, bulk plants, refineries, loading rack installations, and other places where mobility of fire protection equipment is important.

Designed to produce as much or more foam than the ordinary 40-gallon foam engine the Foamster costs less than one-third as much. It is easily operated by one inexperienced person. It can be furnished for storage in freezing locations, ready for instant use. No yearly recharging is necessary. The nozzle is made of highly polished brass, the grip of cast aluminum. This grip is attached to a sturdy metal can by a simple, easy-to-operate locking device so that quick change-over to new containers is easily made. An ingenious trigger valve permits immediate switching from water to foam, just by finger pressure, without shutting down the unit. Release the finger and the water stream returns.

The Foamster is less than 2 feet high, fits a 1-inch booster hose, weighs only 26 pounds with charge. Depending on the pressure and type of foam liquid used, it will deliver up to 540 gallons of foam, has a range of up to 50 feet, will last up to 6 minutes.

Flush Pedal

The new attachable wall-type Easy Flush Pedal, custom designed for industrial plants and institutions, solves the problem of flushing toilets without the hand touching the flush-valve handle. This new pedal is designed to fit all flushometer type water-closets on both existing and new installations. No plumbing changes or shutting off water required for simple ten minute installation. The device is of sturdy construction and design finished in polished chromium plating on heavy gauge brass, with stainless-steel spring. The product is manufactured by Approved Products Co., 205 East 42nd St., New York City.

Prevention of Athlete's Foot

A new three-way service to help prevent athlete's foot is now being made available by Waverly Petroleum Products Co., 1724 Chestnut St., Philadelphia, Pa. The service consists of a new sanitary solution, a new type of mechanical spray dispenser, and replacement service for worn pumps for any other kind of spray dispenser now in use.



Known as Sani-Mist, the solution contains the latest accepted ingredients for the control of athlete's foot fungi. All active ingredients are U. S. P. The solution may be used in any spray dispenser. Because each application is fresh and undiluted, there is no chance of re-infection. The solution is said to be non-irritating. A gallon can provides enough solution for about 3100 full-strength treatments.

The dispenser uses a simple treadle mechanism. As the person "marks time," a fine vapor is sprayed through the aluminum grill opening on which the person treads. The mist covers the feet and ankles and penetrates between the toes. A treatment takes only 3 seconds.

Water Cooler

Temprite Products Corp., 47 Piquette Ave., Detroit, Mich., announce their new explosion-proof drinking water cooler, Model PB-IOWE, which may be installed in potentially combustible atmospheres with safety and security. Designed in accordance with the recommendations of the National Electrical Code for hazardous locations.

Cooling system includes hermetically sealed, lifetime-lubricated motor and compressor; water cooled condenser; 18-8 stainless steel cooling tank with passivated interior and electro-hydrogen welded seams. External refrigerant coils are bonded to tank which is constructed to prevent accidental freeze-ups. Refrigerant is non-flam-

NEW SAFETY EQUIPMENT FOR INDUSTRY



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mable, non-toxic Freon-12. Electrical system is enclosed in approved, explosion-proof, airtight housings and conduit.

The unit is approved by Underwriters Laboratories, Class 1, Group D for hazardous locations, National Electrical Manufacturers' Association, Commercial Standards CS-127-45, Chicago Plumbing and Testing Laboratories. It meets all local and national codes.

Floor Machine

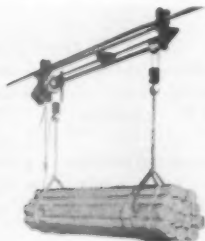
A new explosion-proof all-purpose floor machine has been announced by Holt Manufacturing Co., 651 20th St., Oakland, Calif. Called the Holt Explosion-Proof Commander, it is designed to maintain floors in powder factories, atomic research plants, oil refineries, and other locations where the atmosphere might be hazardous.



This rugged new machine is vapor-proof, spark-proof, and shock-proof. It is custom-built under safety regulations. All wiring, all electrical apparatus is safety-tested and sealed. All electrical fittings and connections bear Underwriters approval. All moving outside parts are built to eliminate external sparks from static. Thick, safety-tested metal enclosures prevent all possibility of explosion.

Hook Hoisting Unit

A double hook hoisting unit is now being marketed by Flinchbaugh Co., York, Pa.

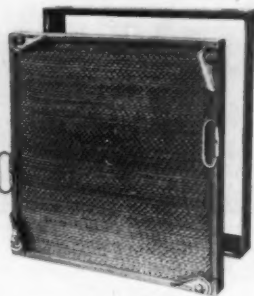


It is a complete hoisting unit with reversing motor, trolley, cable and hooks with numerous uses in any plant. It may be used for handling long items in quantity, for lifting and controlling dumping of heavy barrels or drums of powdered materials, liquids, castings, small stampings, etc.

The unit will fit any size tub for handling loose material such as small parts, chips, waste, coal ashes, liquids or any material suitable to convey and dump for quick unloading. The hoist lifts 500 lbs. at 25 or 250 lbs. at 50 fpm. Hooks are regularly spaced 48 inches apart, but can be adjusted for lesser distance, or the unit can be furnished with hooks up to any distance apart if desired. It is supplied with swivel and adjustable trolley wheels to fit any size or make of track and will travel any size curve.

Unit Air Filter

A new high velocity unit air filter, the American Type HV, has been introduced by the American Air Filter Co., Inc., Louisville, Ky. It is made of corrugated strips of fine mesh wire in which the corrugations



taper so that when two strips are placed together they form a series of pyramid shaped pockets. The small ends of the pockets are closed to the air flow to eliminate any open air passages through the media.

These filters are designed to operate at velocities up to 500 fpm and maintain a uniformly high cleaning efficiency over a wide range of air velocities. They can be serviced in the conventional way with washing and charging tanks or reconditioned by washing out accumulated dust with a hose and spraying with filter adhesive.

Stretcher Carrier

Century Truck & Manufacturing Co., 3931 Market St., Youngstown, Ohio, has developed a carrier which will accommodate the standard stretcher for moving injured industrial workers to their emergency hos-

pitals. The carrier reduces unnecessary shock to the injured. The load is carried on springs with easy rolling pneumatic tires. Over-all length of the carrier is 76 inches and width 36 inches. Height to the bottom of the stretcher legs, 27 inches. Wheels are 26"x2-1/8" pneumatic heavy duty with ball bearing hub and heavy spokes. Tires are Clincher Double Eagle with inner tube. The container of the carrier is adjustable to fit variable length stretcher legs.

Traffic Line Spreader

An improved sled-type spreader for its Controlled-Flo-Traffic-Line-Paint Striper making it possible to lay down lines in fractional widths from two to eight inches is announced by the Universal Marine & Mfg. Corp., 137 Alexander St., Yonkers, N. Y. The machine is adapted to line street crossings, industrial plants, recreational areas, and safety zones.

The machine itself simplifies the problem of maintenance. Gravity-fed and requiring no power unit, it has no hose to blow out, or jets to clean, no pressure tank, no gas engine or compressor. The markers are equally effective in lining outdoor areas and indoor installations as well as hard-surface parking lots. The sled-type paint spreader uses striping or zone paint of any standard manufacture. Noiseless in operation, the machine throws off no spray dust. Receiving the paint from the gravity line, a distribution apron feeds it evenly to finger rollers which spread the fluid. Offset in operation, it allows the operator a clear view of the line at all times, eliminating the necessity of straddling the stripe.

News Items

The H. M. Sawyer & Son Co., Cambridge, Mass., manufacturers of safety and protective clothing, has announced the following promotions. Richard W. Harkness has been appointed merchandise manager and A. K. Morley Horton has been appointed sales manager of the Industrial Protective Clothing Division.

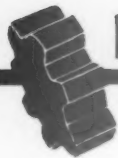
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Wallace Optical Co., Inc., 1025 Brush St., Detroit, Mich., announces that the Wallace "Eye-Guard" lenses are now available in a complete line of plano lenses, with or without the Wallace TUF-COTE process, lenses only, or furnished with various goggle frames.

This company also announces that American Optical Co. has been named a distributor for TUF-COTE, a spark and spatter resistant coating used to give safety lenses longer life.

* * *

Walter Kidde & Co., Inc. announces the opening of a Southern California branch sales office, under the direction of Walter G. Beaman.



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Located at 3327 W. Washington Blvd., Los Angeles, the branch offers sales and engineering service in addition to complete shop facilities for recharging, repairing and hydrostatic testing of fire extinguishing equipment. * * *

The Buffalo Fire Appliance Corp. recently announced the promotion of Byron J. O'Hara to the newly created post of regional sales director for the New England, New Jersey, and Metropolitan New York areas, with offices in New York City.



Mr. O'Hara has been associated with the Buffalo Fire Appliance Corp. since 1938. His previous position was that of district sales manager of the Middle Atlantic territory.



This company also announces the promotion of T. G. Metz to assistant vice president. Mr. Metz was first associated with the company as sales correspondent in 1944 before the company was moved from Buffalo to Dayton in 1946. In his new capacity as assistant vice president he will supervise sales activities and general operation of the company. * * *

The appointment of A. F. Johnson as regional sales manager covering Western states for Medical Supply Co., Rockford, Ill., is announced by the company president, Gordon P. St. Clair. Johnson worked with



the shoe and petroleum industries prior to World War II when he served in the Navy.



The appointment of Gordon C. Nelson as regional sales manager covering North Central states for Medical Supply Co. has also been announced.

Mr. Nelson has wide experience in plant safety. After studying civil engineering at the University of Illinois, he was employed by Barnes Drill Co., and Smith Oil & Refining Co. He will maintain his home at headquarters in Rockford. * * *

American Optical Co. announces the appointment of Arne J. Oker as advertising manager. He succeeds Harry C. Ray who retired on December 31 after serving the company for 40 years.



A graduate of Boston University where he majored in advertising, Mr. Oker joined the company in 1927, was made art director in 1938 and assistant advertising manager in 1945. He is a member of the Association of National Advertisers, National Industrial Advertising Association and the Exhibit Committee of the Optical Manufacturers Association, serving as a representative of the company.

New Offices

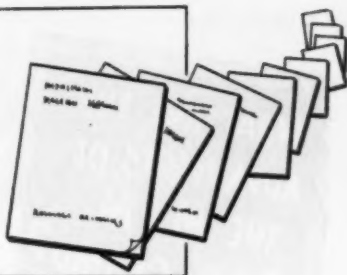
Ebasco Services Incorporated has opened its new and enlarged Washington, D. C., office at 1625 "I" Street, N.W. The new office is centrally located in a modern office building just completed, and will continue under the management of W. B. Cosdon.

Embarrassing moment: To have the train lurch sideways as you emerge from the club car.—*Western Pacific Magazine.*

TRADE PUBLICATIONS

in the Safety Field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.



1. **Magnesium Handling Equipment:** Light weight hand trucks with mechanically joined, aircraft type construction are described in Bulletin HT-101. Lighter weight for easier handling, and mechanical joining means all parts are replaceable. Complete line of hand trucks for all purposes. Bulletin DB-203 describes companion magnesium dockboards. Magline, Inc.

2. **Occupational Visual Service:** Booklet describes equipment for, and methods of visual testing for higher efficiency and safety. Model 46-A telebinocular tests vertical and horizontal alignment of eyes, acuity of each eye, stereopsis, color perception, and near point acuity of eyes. Machine is sold outright. Keystone View Co.

3. **Floor Drying Compound:** Granular mineral compound, neither clay nor Fuller's Earth, with high absorptive properties for oil, grease, kerosene, water and other liquids is described in this pamphlet. Provides added safety in form of non-skid, non-slip surfaces. Insoluble, will not "pack" underfoot. Eagle-Picher Sales Co.

4. **Corrosive Resistant Gasketing:** Brochure describes new coated fibre felt gasketing that offers many advantages, including maximum corrosive protection. Will not deteriorate, is anti-wicking and resists permanent compression. Can be obtained in an oil resistant type, and Type M for naval applications. Easy to apply; comes in many sizes. Spring Packing Corp.

5. **Fork Trucks:** Series B trucks of 3,000 and 4,000 lbs. capacity are described in Bulletin 1324. Pictures of trucks' major components, dimension drawings showing maneuverability, and illustrations of accessory equipment included. Baker Raulang Co.

6. **Safety Drill Tables:** Drill table here described combines a drill table, a vise, a set of parallels and a V-block in a single unit. Replaces table on your present press. Wide side opening solves problem of drilling pieces on end. Modern Machine Tool Co.

7. **Safety Award Campaigns:** Booklet EP-38 serves a dual purpose in that it offers in detailed form three safety programs and contains a catalog section of safety awards, including emblems, and personal type awards. Award Incentives.

8. **Lineman's Suits, Accessories:** Catalog of two piece suits, of double textured lightweight fabric. Butyl compound between fabric walls insulates wearer from wind, rain, sleet and snow. Flexibility guaranteed; other test results on request. W. V. Haynes Co.

9. **Floor Maintenance:** A detailed discussion on maintenance of all kinds of floors is presented in this illustrated booklet. Sections are devoted to wood floors, resilient floors, and non-resilient. Maintenance equipment included. Masury-Young Co.

10. **Hand and Hair Driers:** Latest models in a complete line of electric hand and hair driers are presented in this new folder. Models described include new, high-speed semi-recessed wall model with instant starting push button switch and automatic cut-off, new pedestal model, portable hand or hair drier. Many new mechanical features. Chicago Hardware Foundry Co.

11. **Restaurant Stools and Tables:** A new brochure illustrating "CHF" stools and tables is now available. Selected models are representative of complete line. Chicago Hardware Foundry Co.

12. **Atomic Energy Field Protective Equipment:** Such approved material as protective respiratory and air sampling equipment, ventilation accessories, protective clothing, materials for contamination control, automatic artificial respiration instruments and oxygen therapy equipment are described in Booklet G-10, concerned with problems of air and surface contamination, involving radio-active or toxic contaminants. Mine Safety Appliances Co.

13. **Drainage Manual:** This 47-page illustrated manual is intended to assist construction engineers, superintendents and foremen in the proper methods of installing "Armco" drainage structures, culverts,

sewers or conduits. All stages of construction are discussed and accompanied by detailed sketches. Armco Drainage & Metal Products.

14. **"Maintenance Checking Chart:"** This complete chart lists many common building maintenance problems and recommends a solution for each. Chart lists over 100 products and processes for maintenance. United Laboratories, Inc.

15. **Valves:** Anyone dealing with liquids and gases under pressure will find this catalog of interest. Included are two completely new valves—a fully automatic reseating relief valve, and a large size pressure reducing and regulating valve—described for the first time. Ask for Bulletin 299. A. W. Cash Valve Mfg. Corp.

16. **Toilet Compartments:** Catalog 88 is color illustrated to show outstanding color combinations available using either "Porcelain," porcelain on steel finish, or "Tenac," a baked synthetic organic finish. Tabular summary shows materials, finishes, use of various styles of compartment installation and specification data for each type. Sanymetal Products Co., Inc.

17. **Welding with Bronze Electrodes:** A new 24-page reference and instruction book "Welding with Ampco Bronze Electrodes" contains technical data on electrodes, recommended welding techniques, procedures and machining suggestions. Bulletin W-17. Ampco Metal, Inc.

18. **Sprocket Rims:** New folder describes advantages of adjustable sprocket rim with chain guide. Rim designed for operation of overhead or inaccessible valves, and hopper devices from the floor. Babbitt Steam Specialty Co.

19. **Fire Fighting:** Brochure on one quart fire extinguisher equipped with "corrosion arrestor" which purifies liquids and eliminates corrosion. "Safety Phlare" cylinder feature prevents felts being held in compressed position—they always fit snugly, no slippage. Also brochure on fire hose and accessories. The General Detroit Corp.

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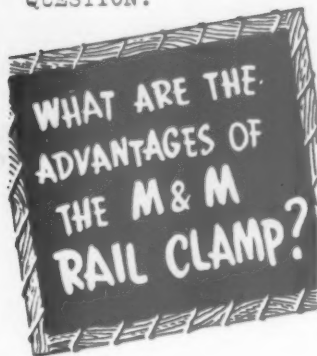
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